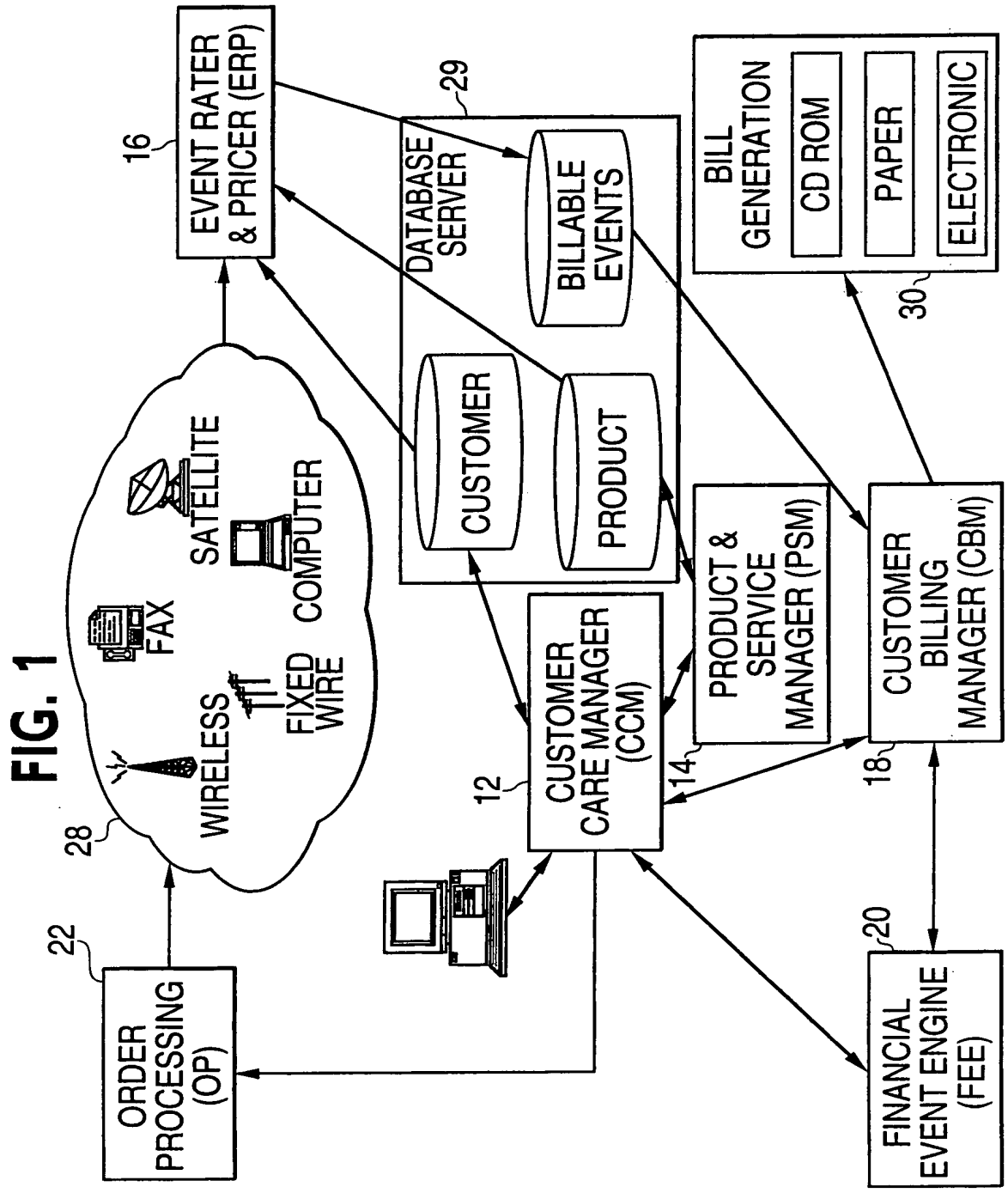
OIPE JC13
JUL 19 2005
PATENT & TRADEMARK OFFICE

FIG. 1



REPLACEMENT SHEET

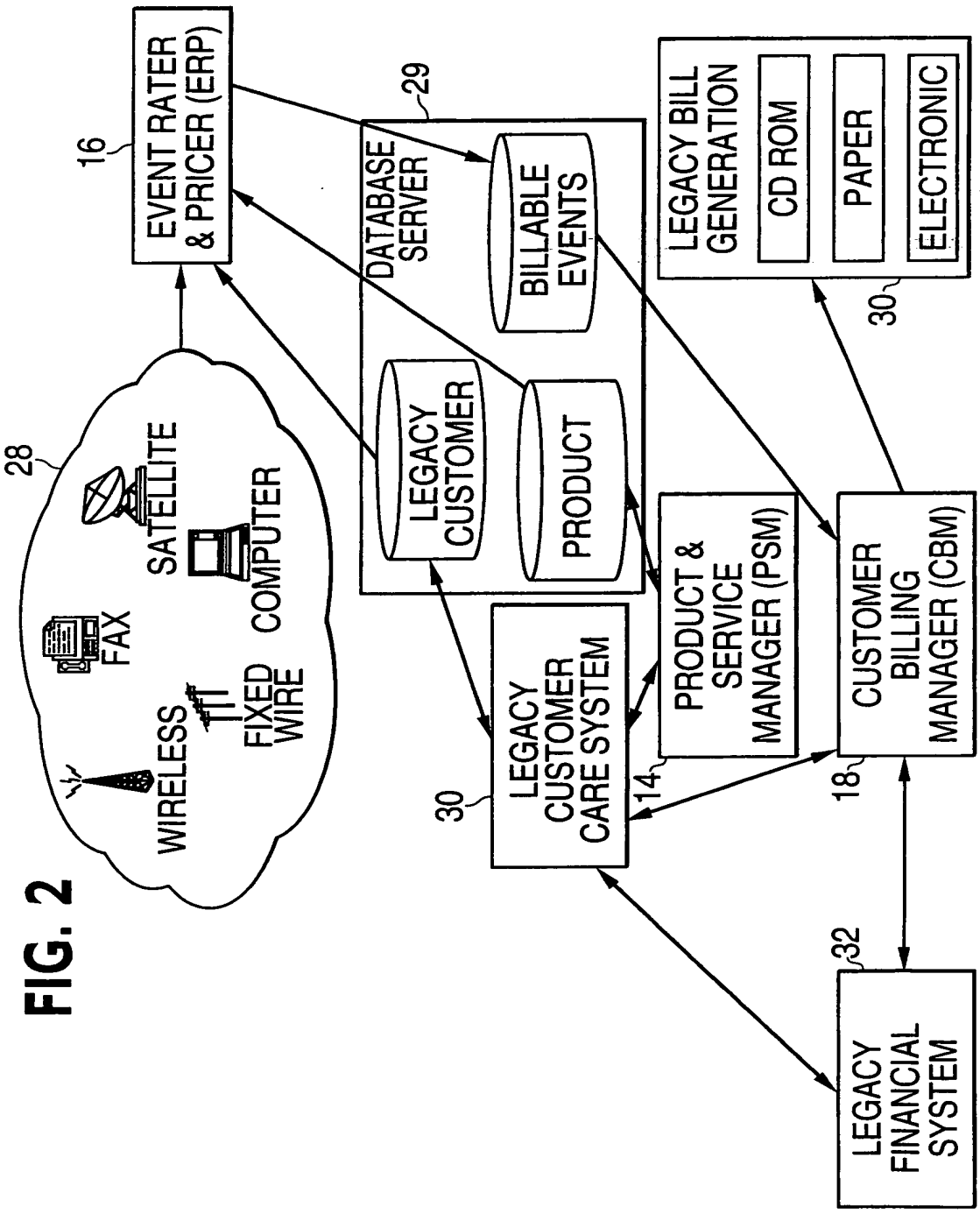


FIG. 2

REPLACEMENT SHEET

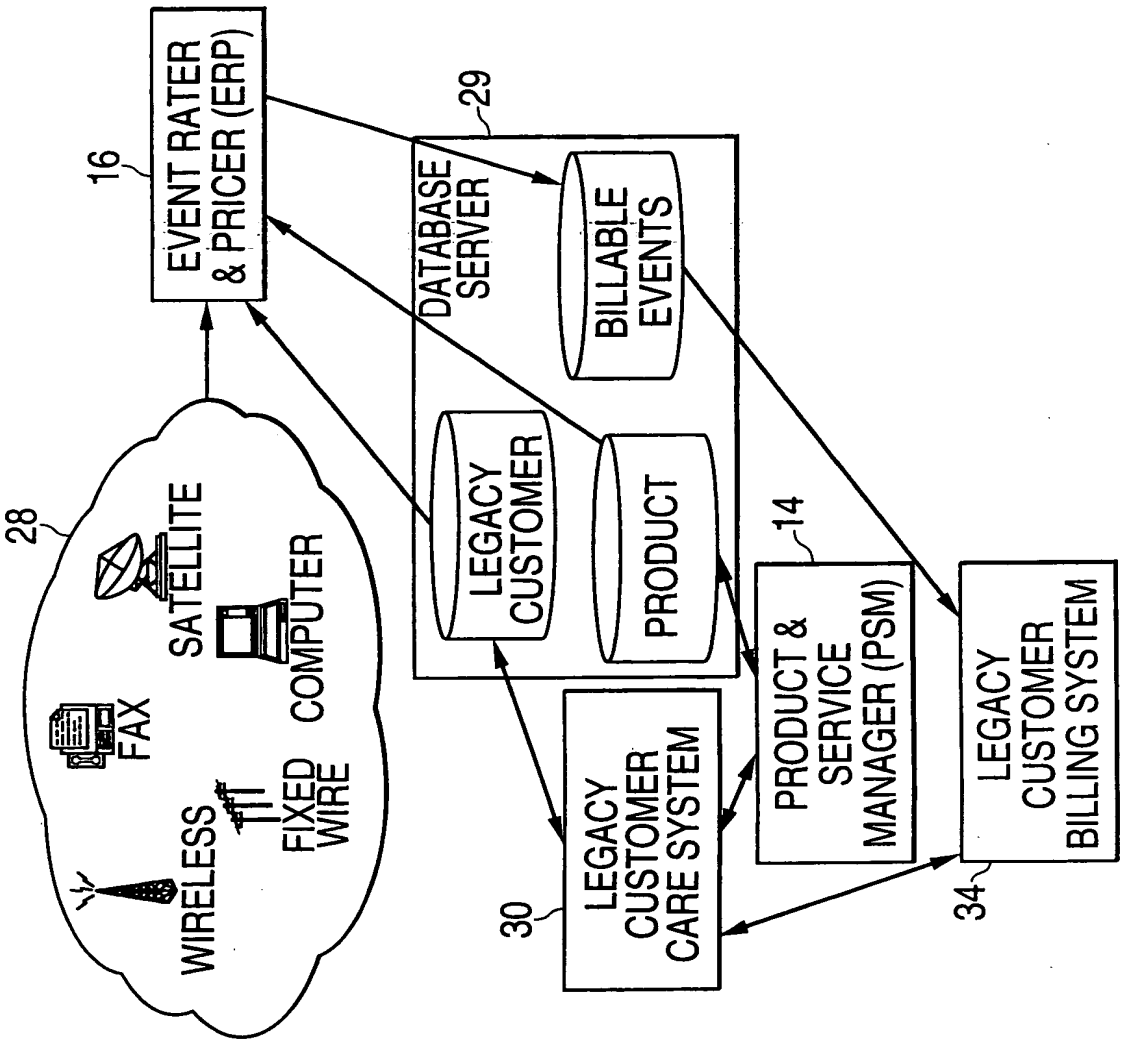


FIG. 3

FIG. 4

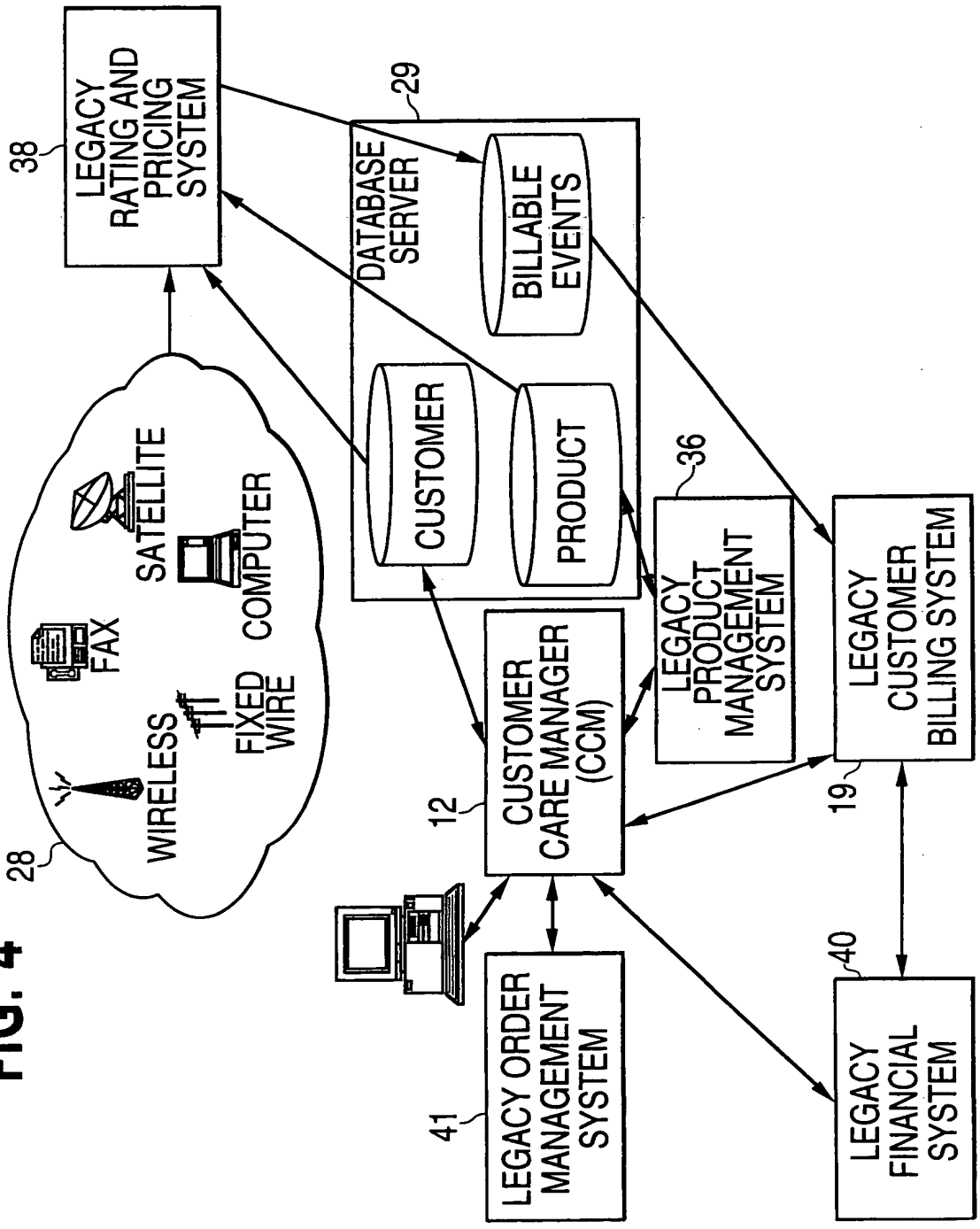
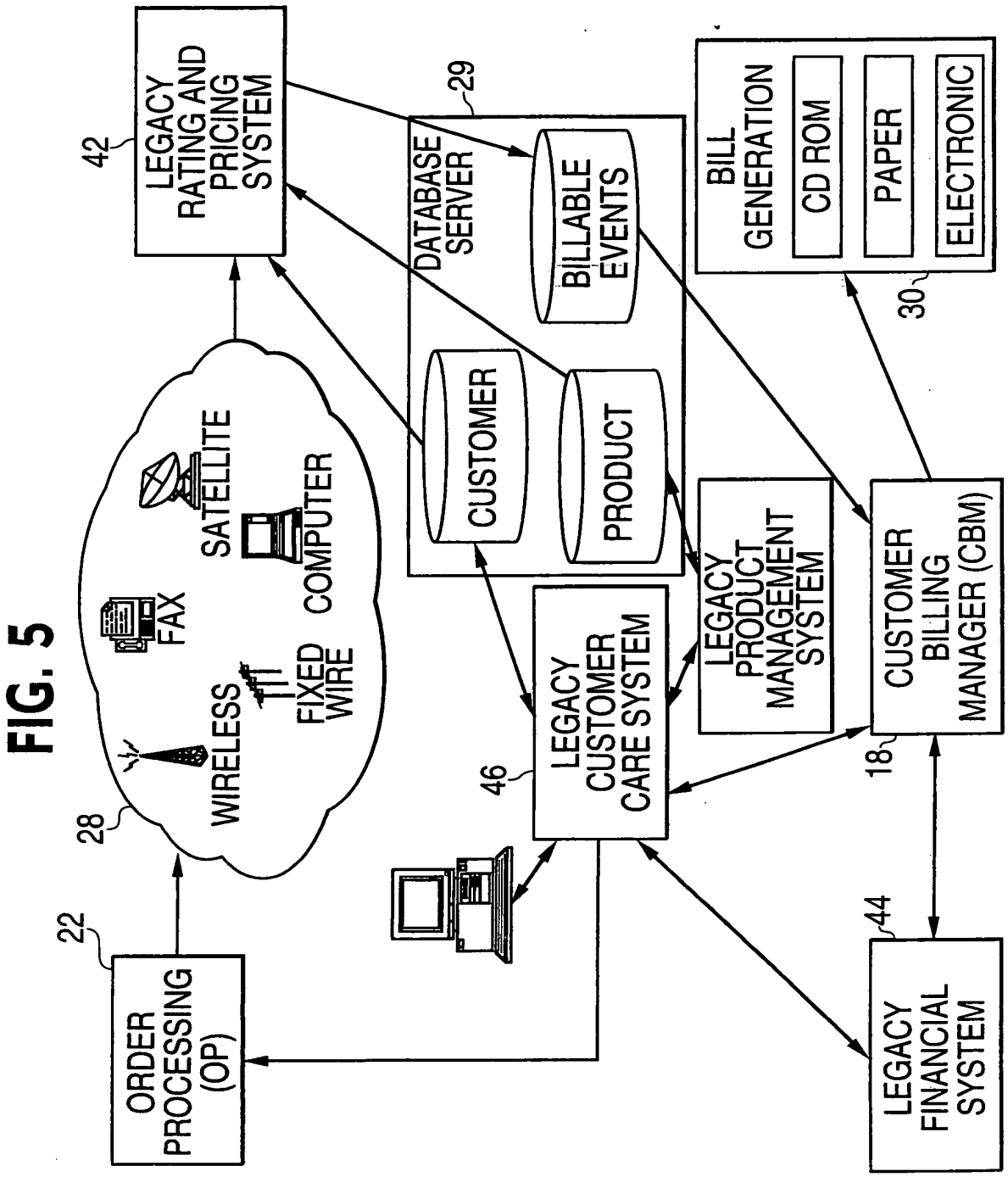

LEGACY RATING AND PRICING SYSTEM
38
DATABASE SERVER
29
BILLABLE EVENTS
CUSTOMER
PRODUCT
SATELLITE
COMPUTER
FAX
WIRELESS
FIXED WIRE
28
CUSTOMER CARE MANAGER (CCM)
12
LEGACY PRODUCT MANAGEMENT SYSTEM
36
LEGACY CUSTOMER BILLING SYSTEM
19
LEGACY ORDER MANAGEMENT SYSTEM
41
LEGACY FINANCIAL SYSTEM
40

FIG. 5


LEGACY RATING AND PRICING SYSTEM
42
DATABASE SERVER
29
BILLABLE EVENTS
CUSTOMER
PRODUCT
BILL GENERATION
CD ROM
PAPER
ELECTRONIC
30
SATELLITE
COMPUTER
FAX
WIRELESS
FIXED WIRE
28
LEGACY CUSTOMER CARE SYSTEM
46
LEGACY PRODUCT MANAGEMENT SYSTEM
CUSTOMER BILLING MANAGER (CBM)
18
ORDER PROCESSING (OP)
22
LEGACY FINANCIAL SYSTEM
44

REPLACEMENT SHEET

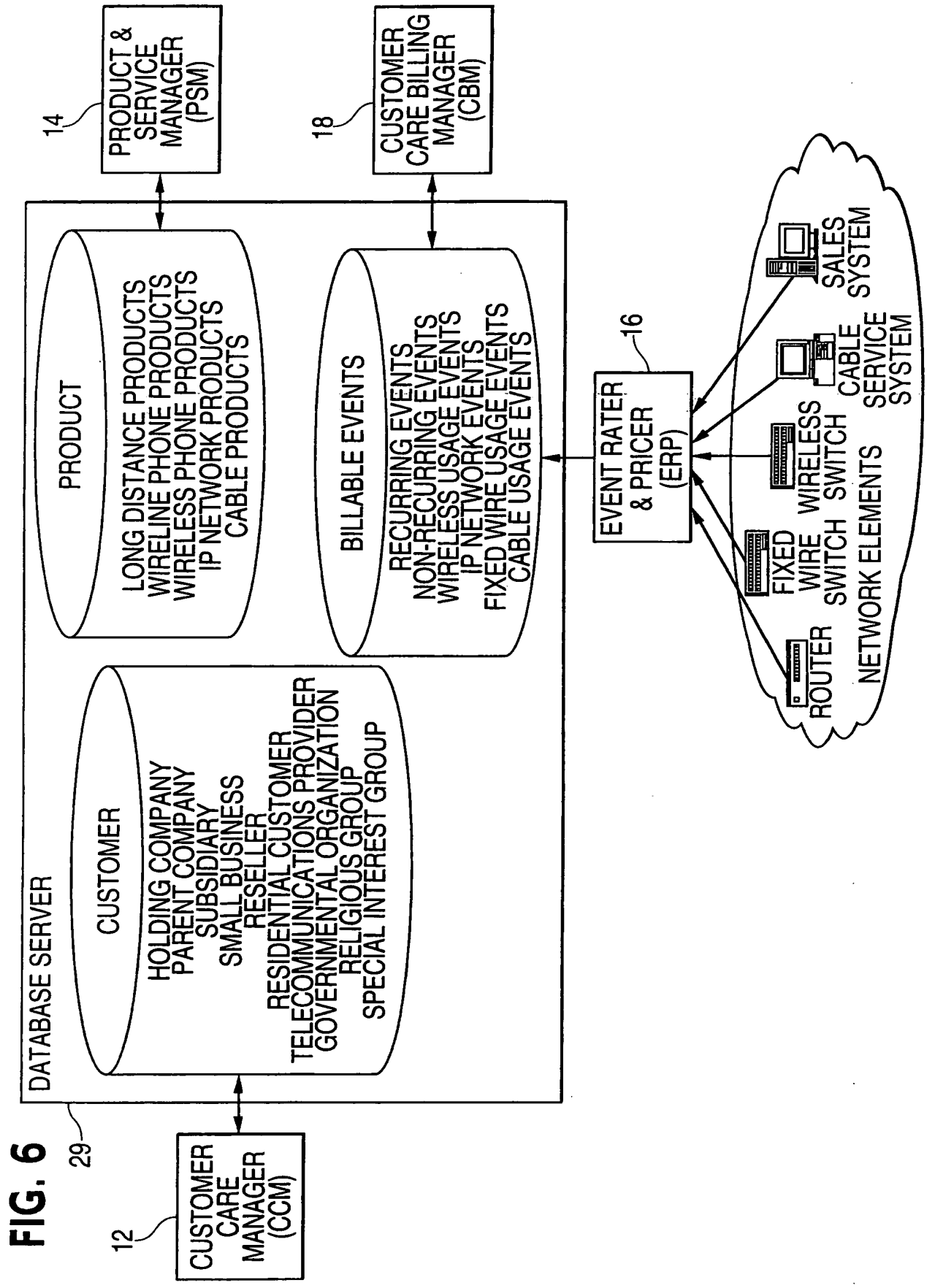
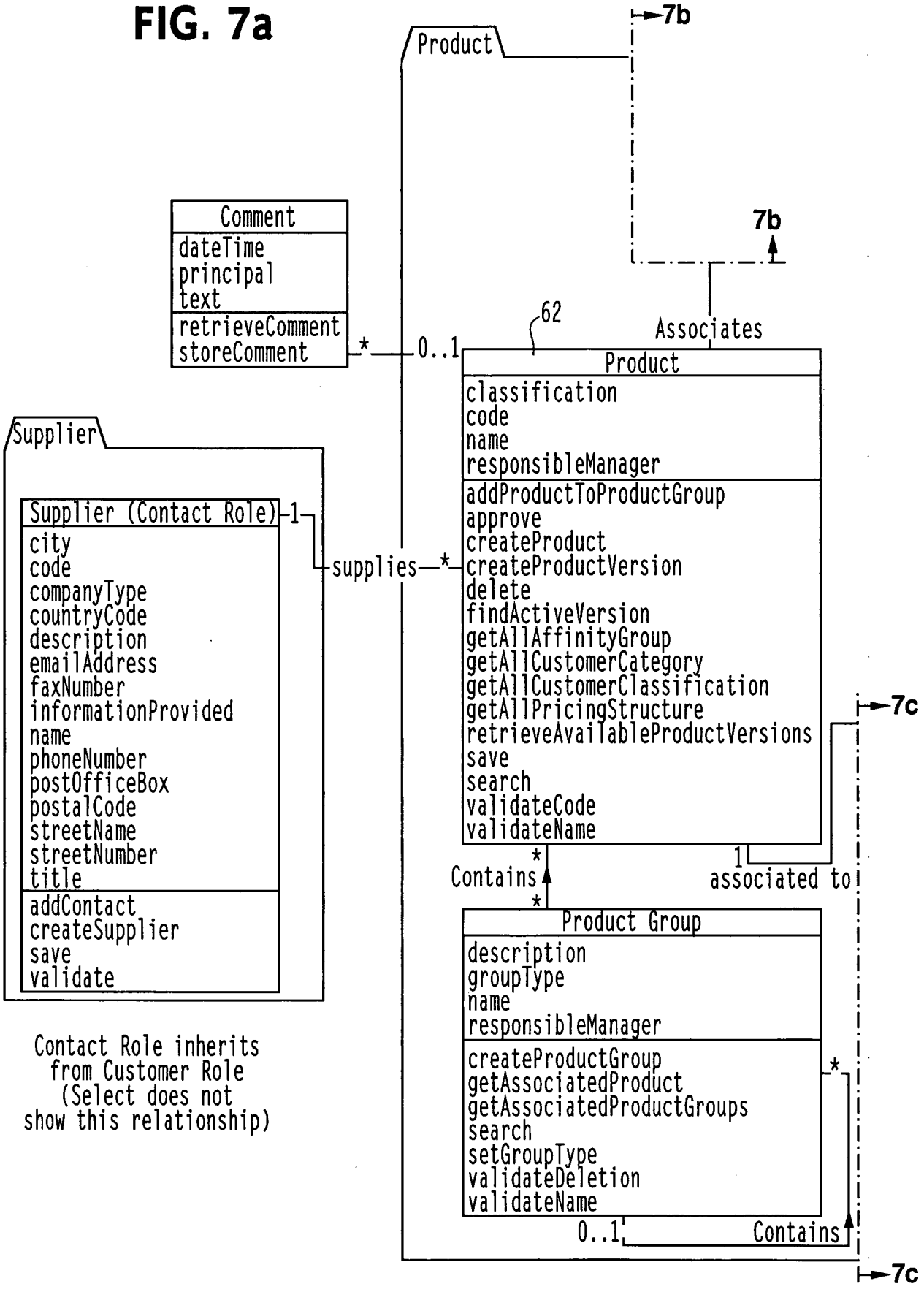


FIG. 6

REPLACEMENT SHEET

FIG. 7a



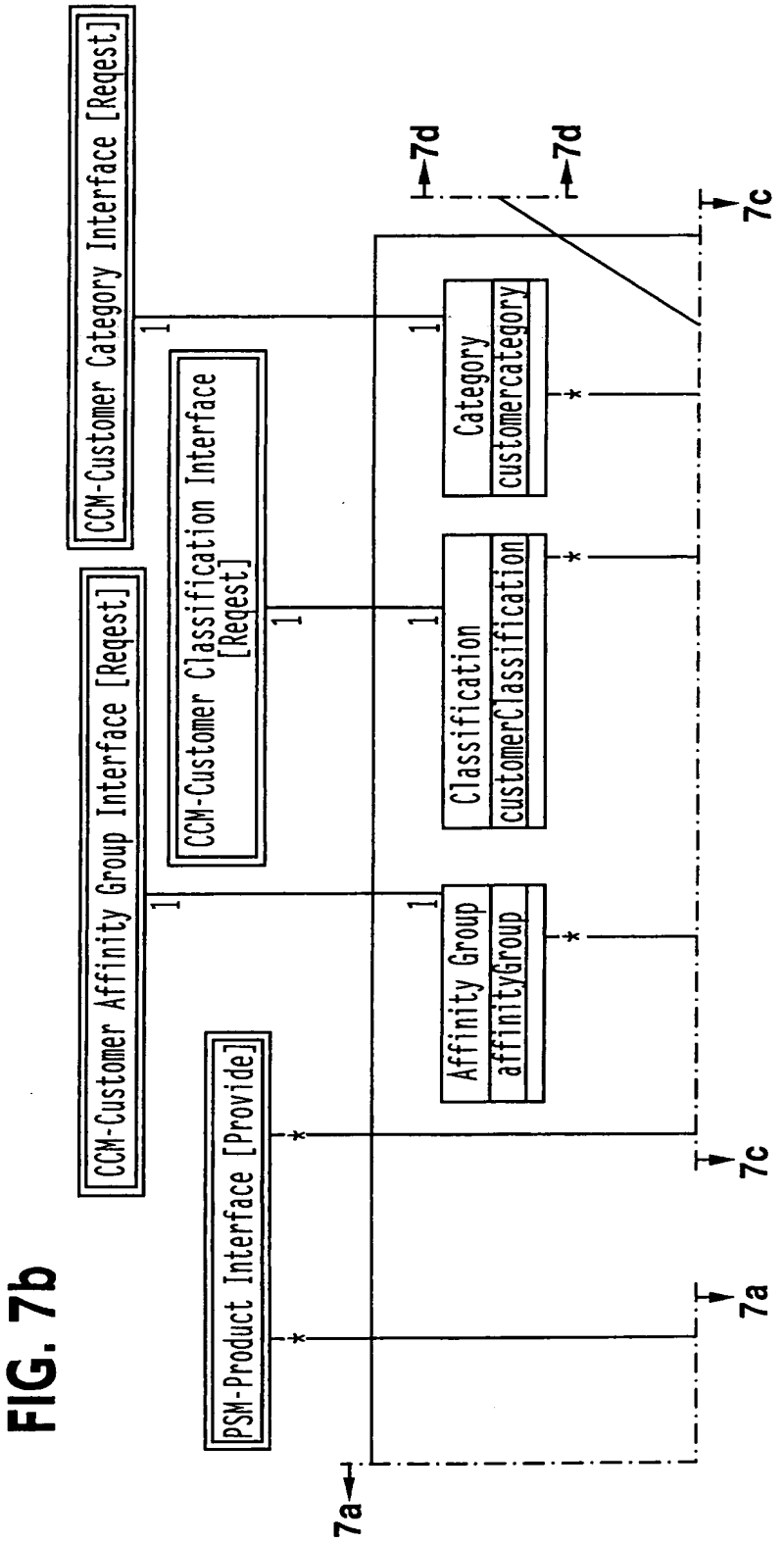

CCM-Customer Category Interface [Reqest]
CCM-Customer Affinity Group Interface [Reqest]
CCM-Customer Classification Interface [Reqest]
PSM-Product Interface [Provide]
Category
customercategory
Classification
customerClassification
Affinity Group
affinityGroup
1
*
7a
7c
7d

FIG. 7b

REPLACEMENT SHEET

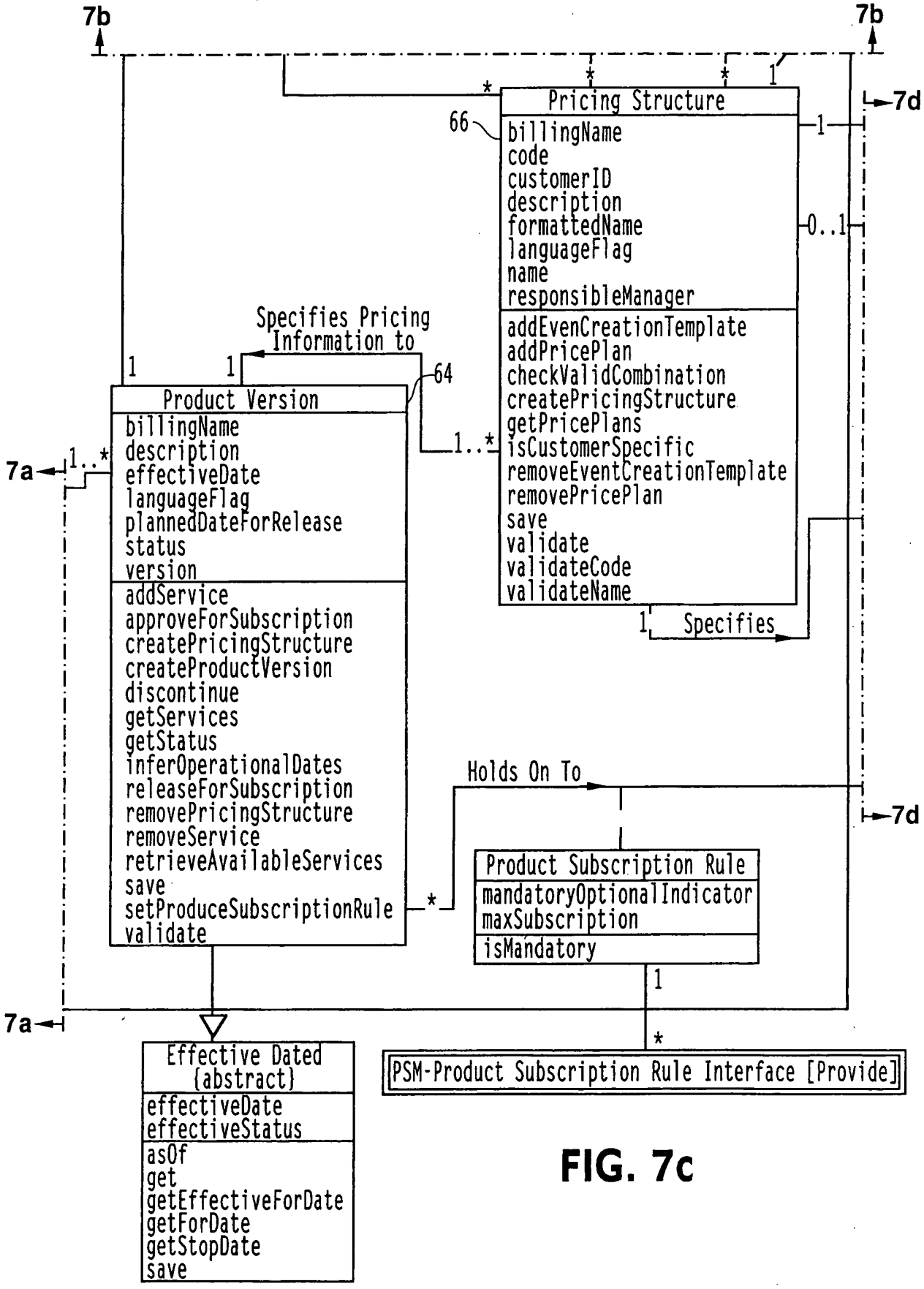
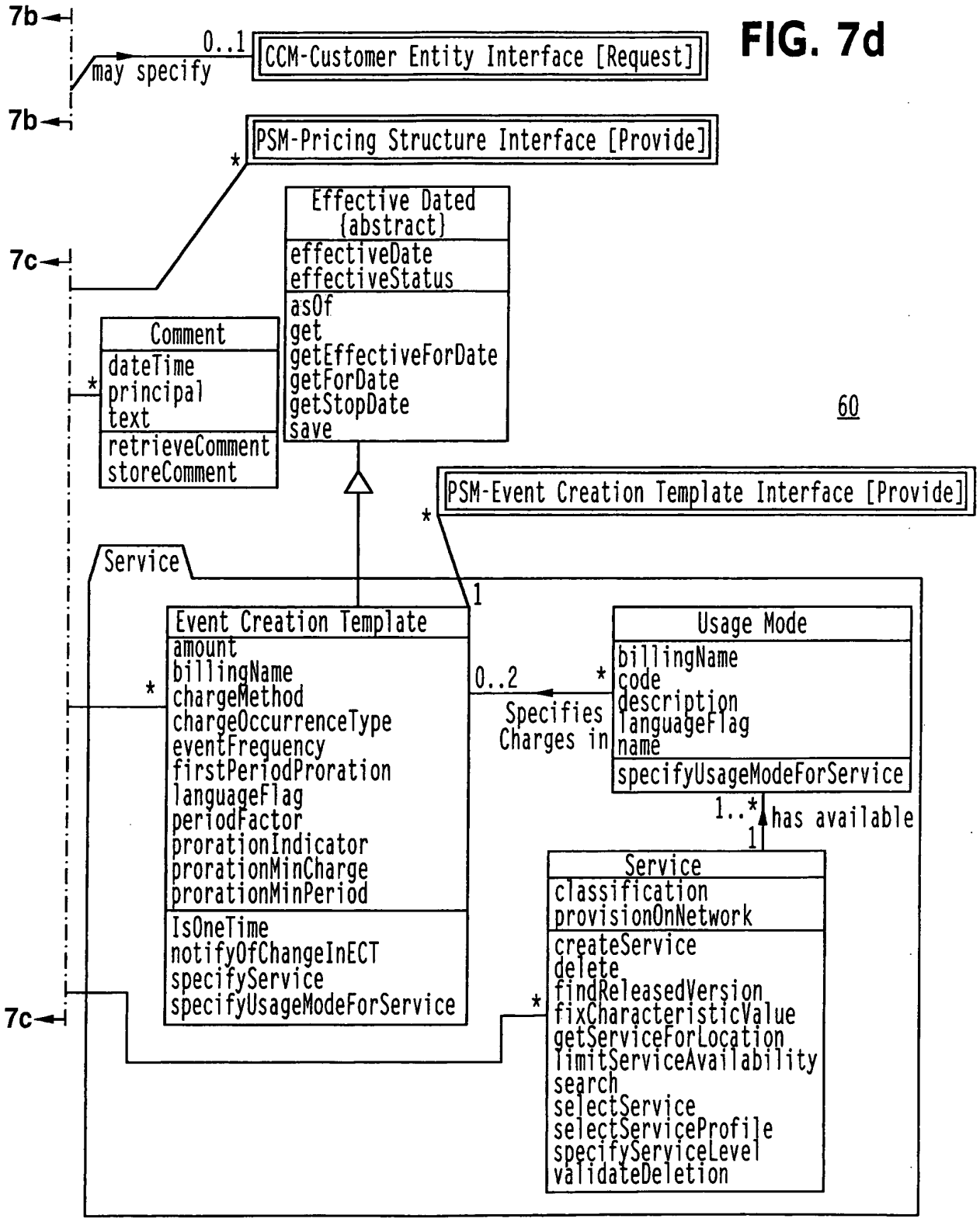


FIG. 7c

REPLACEMENT SHEET

FIG. 7d



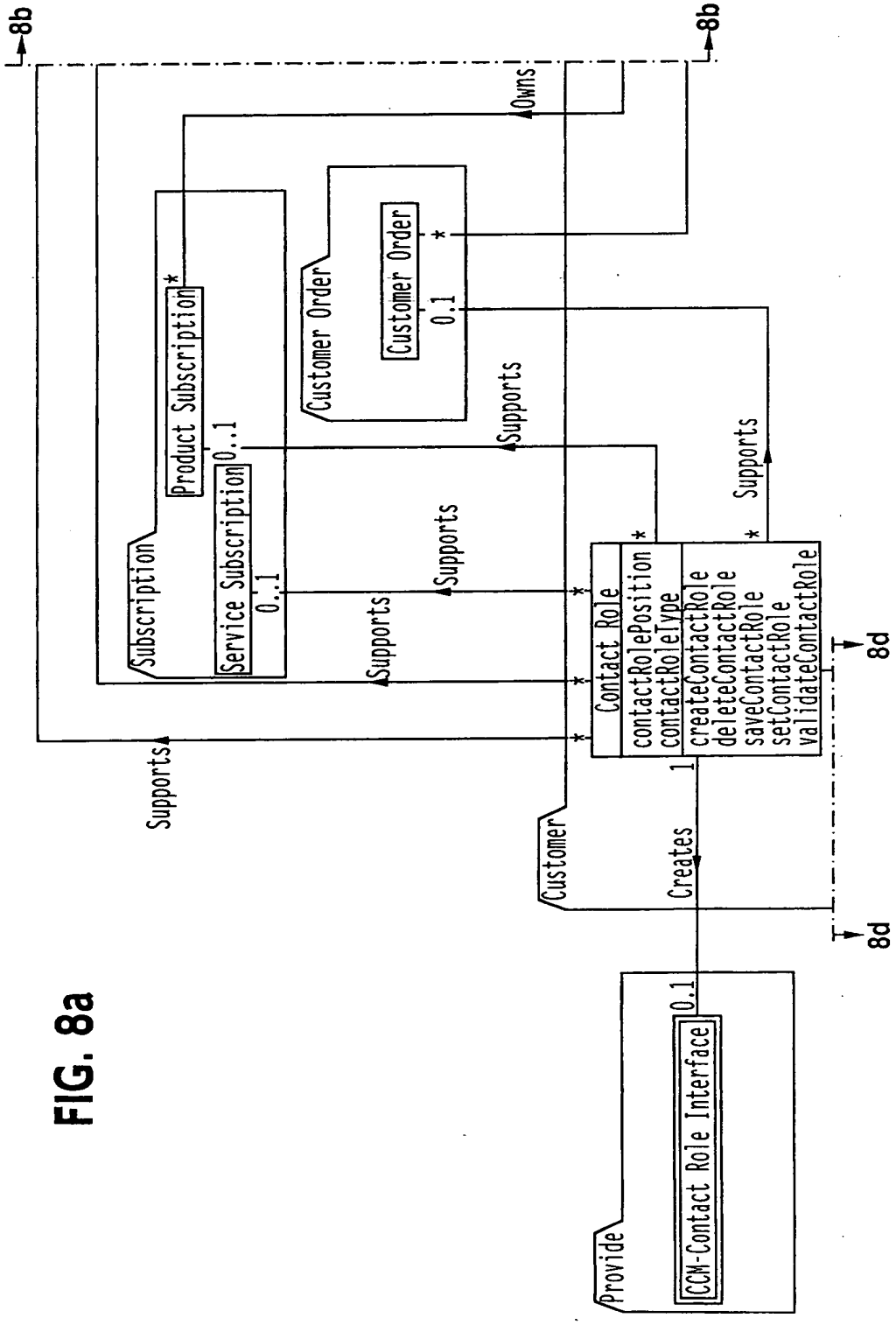

8b
8b
Owns
Product Subscription
Subscription
Service Subscription
0..1
0..1
Customer Order
Customer Order
0..1
*
Supports
Supports
Supports
Supports
Supports
Contact Role
contactRolePosition
contactRoleType
createContactRole
deleteContactRole
saveContactRole
setContactRole
validateContactRole
*
*
*
*
8d
8d
Customer
Creates
1
Provide
CCM-Contact Role Interface
0..1

FIG. 8a

REPLACEMENT SHEET

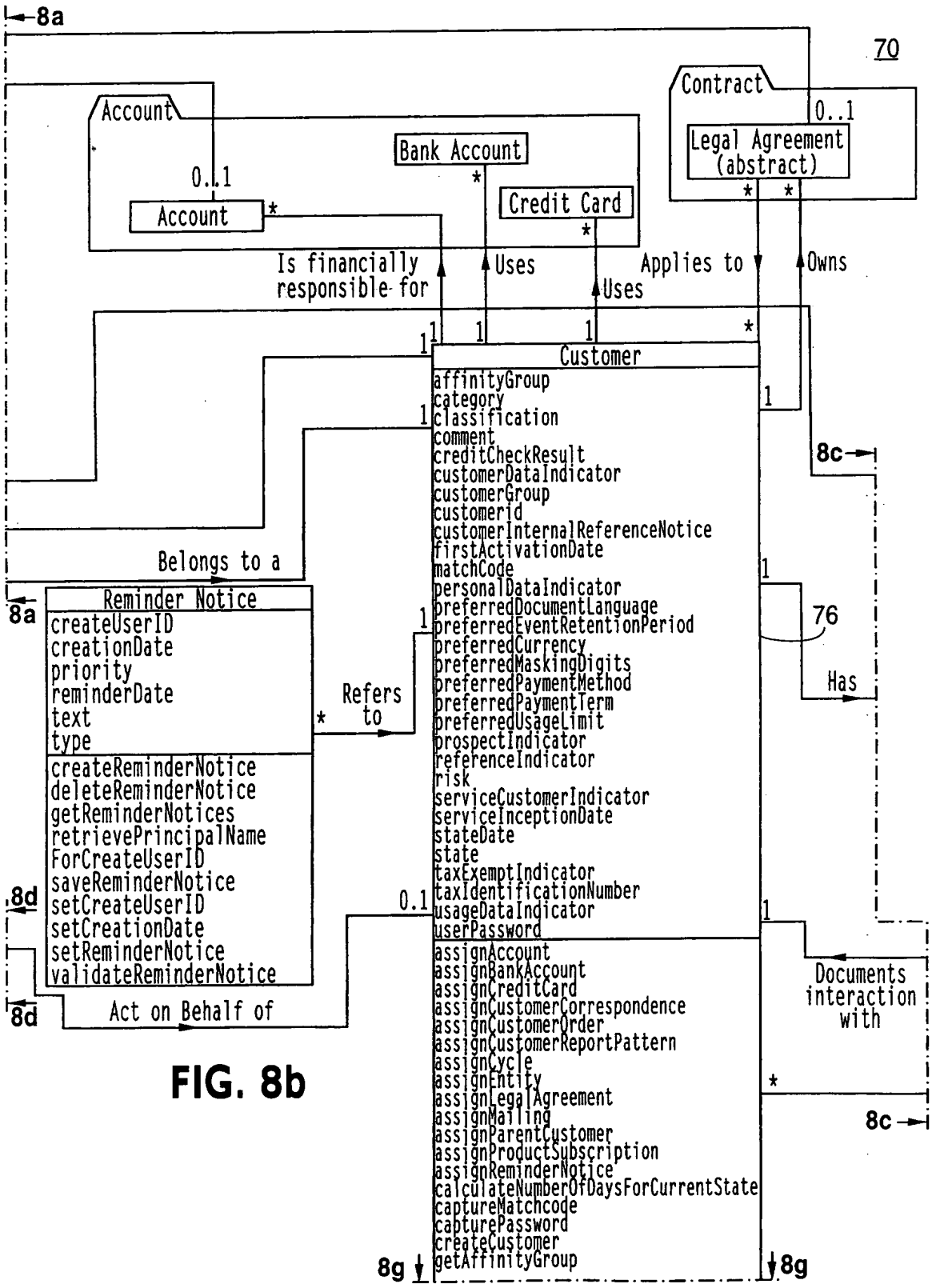
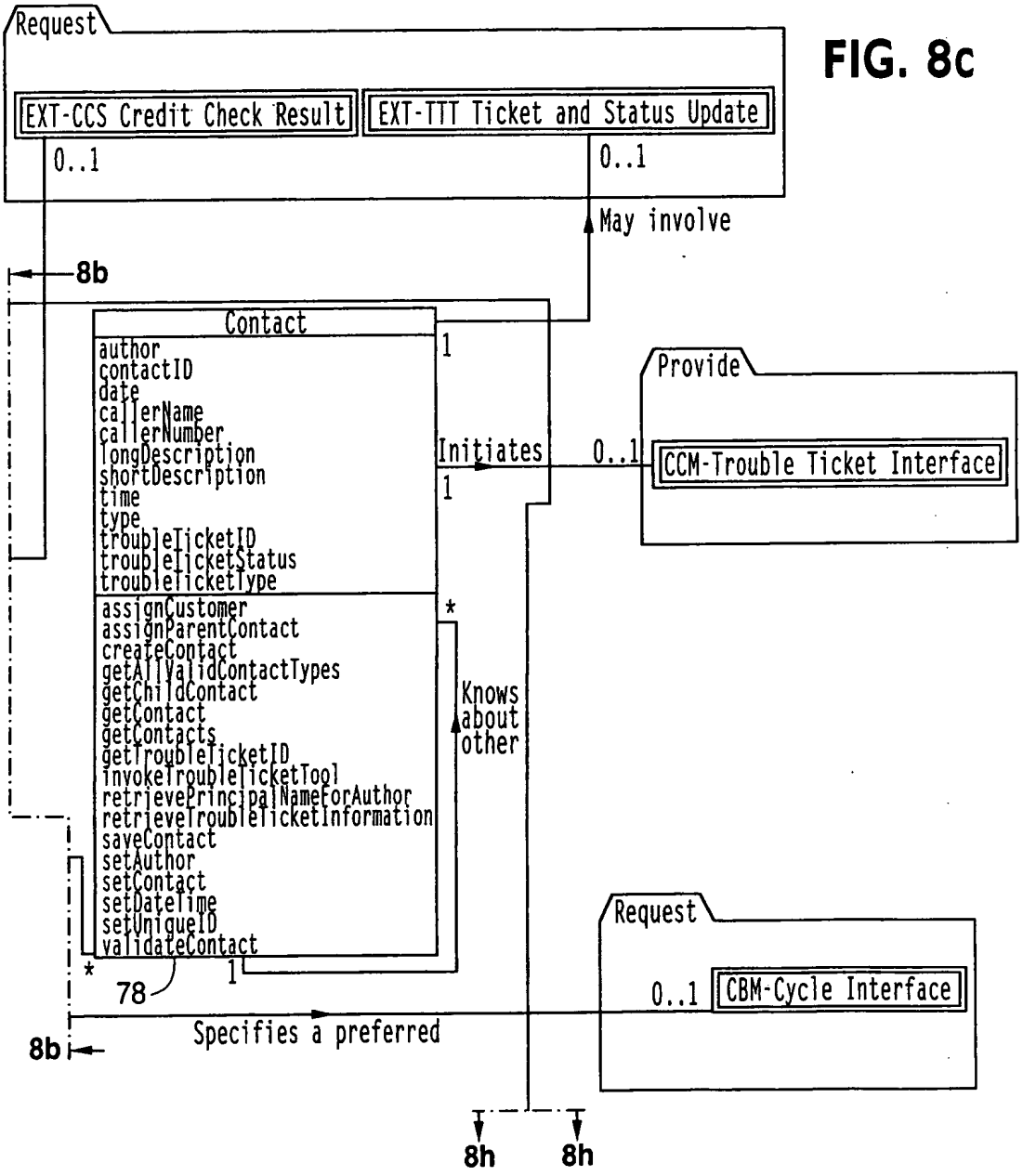


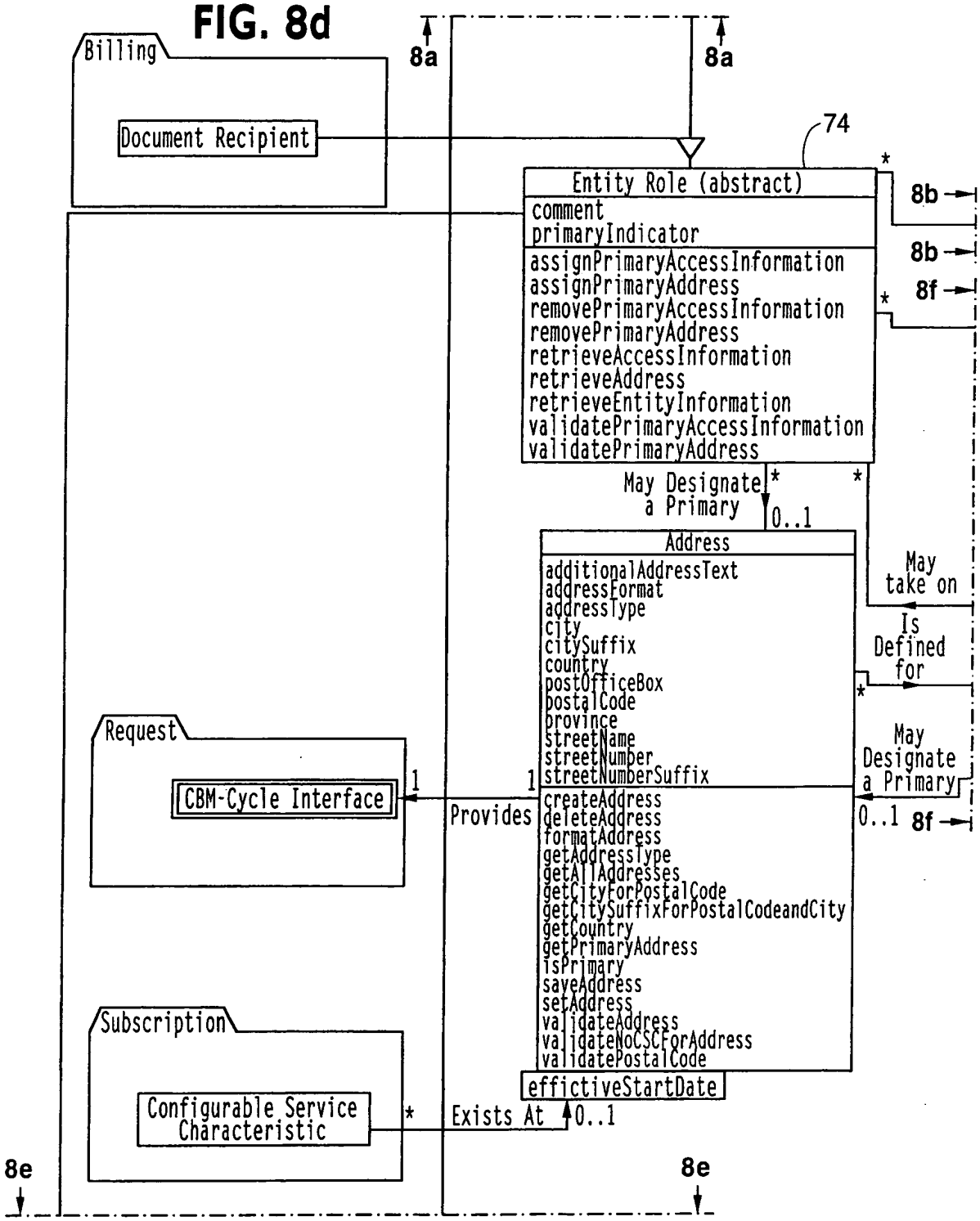
FIG. 8b

FIG. 8c


Request
EXT-CCS Credit Check Result
EXT-TTT Ticket and Status Update
0..1
0..1
May involve
8b
Contact
author
contactID
date
callerName
callerNumber
longDescription
shortDescription
time
type
troubleTicketID
troubleTicketStatus
troubleTicketType
assignCustomer
assignParentContact
createContact
getAllValidContactTypes
getChildContact
getContact
getContacts
getTroubleTicketID
invokeTroubleTicketTool
retrievePrincipalNameForAuthor
retrieveTroubleTicketInformation
saveContact
setAuthor
setContact
setDatetime
setUniqueID
validateContact
1
Initiates
1
0..1
Provide
CCM-Trouble Ticket Interface
*
Knows
about
other
*
1
78
Request
0..1
CBM-Cycle Interface
8b
Specifies a preferred
8h
8h

REPLACEMENT SHEET

FIG. 8d



REPLACEMENT SHEET

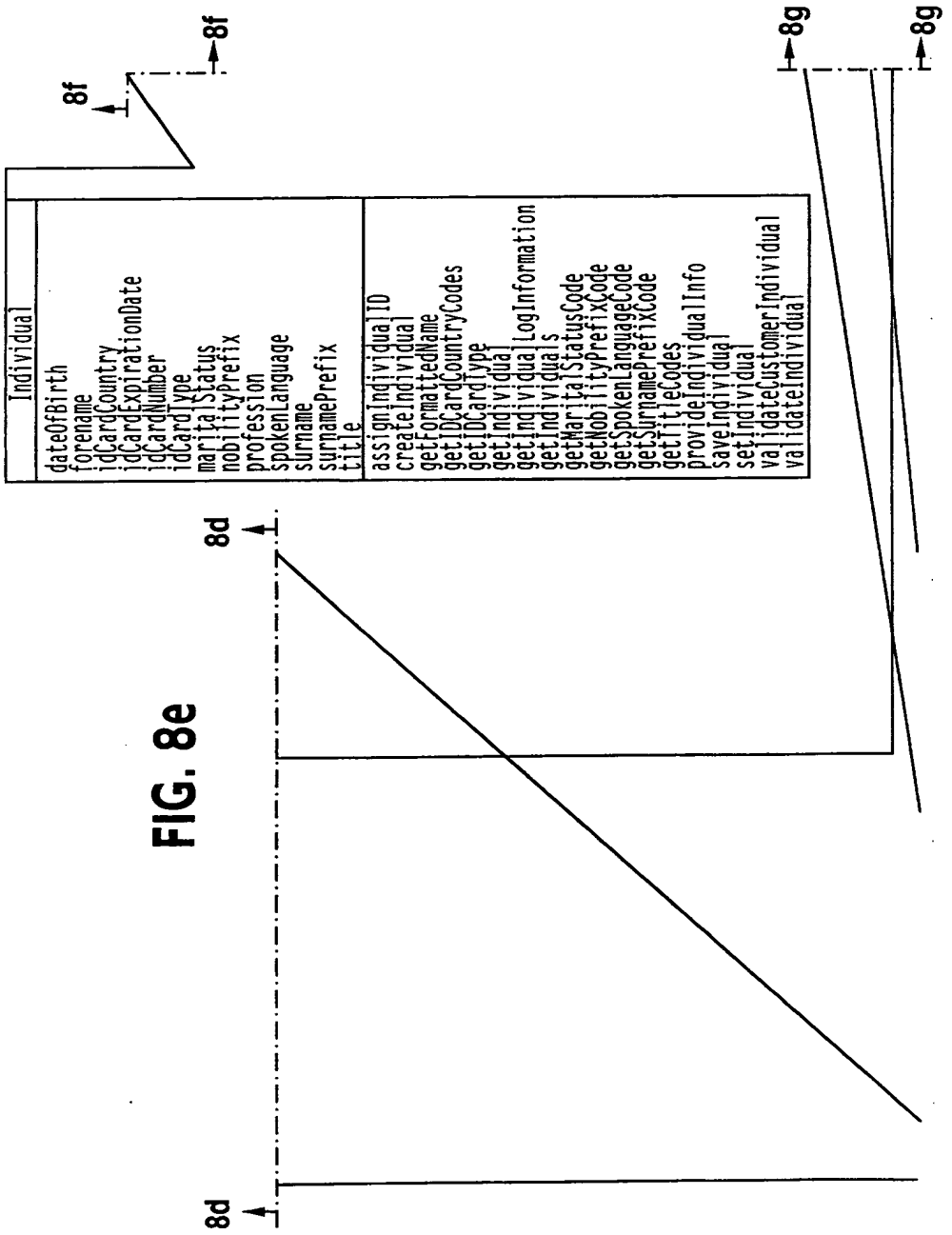


FIG. 8e

REPLACEMENT SHEET

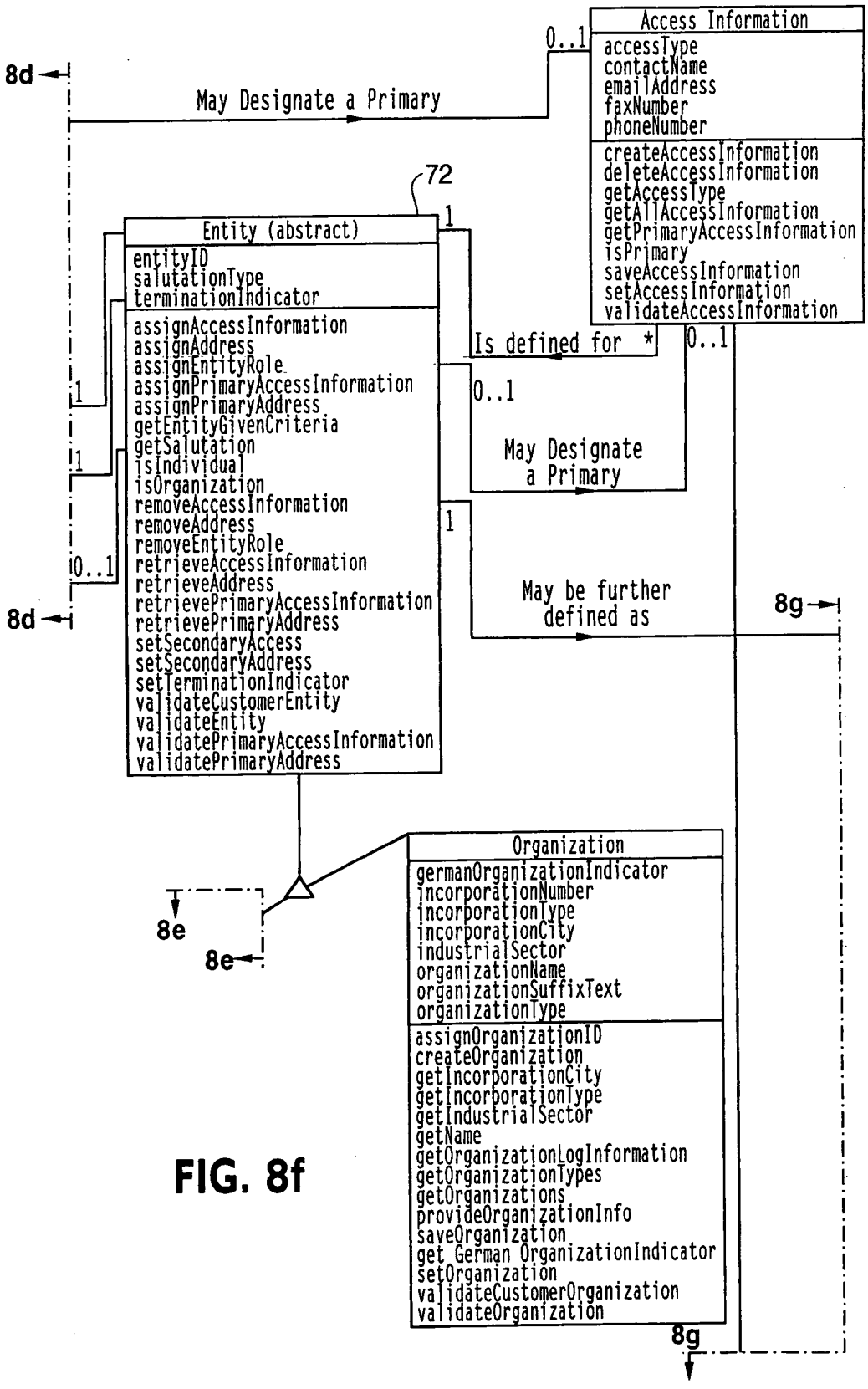
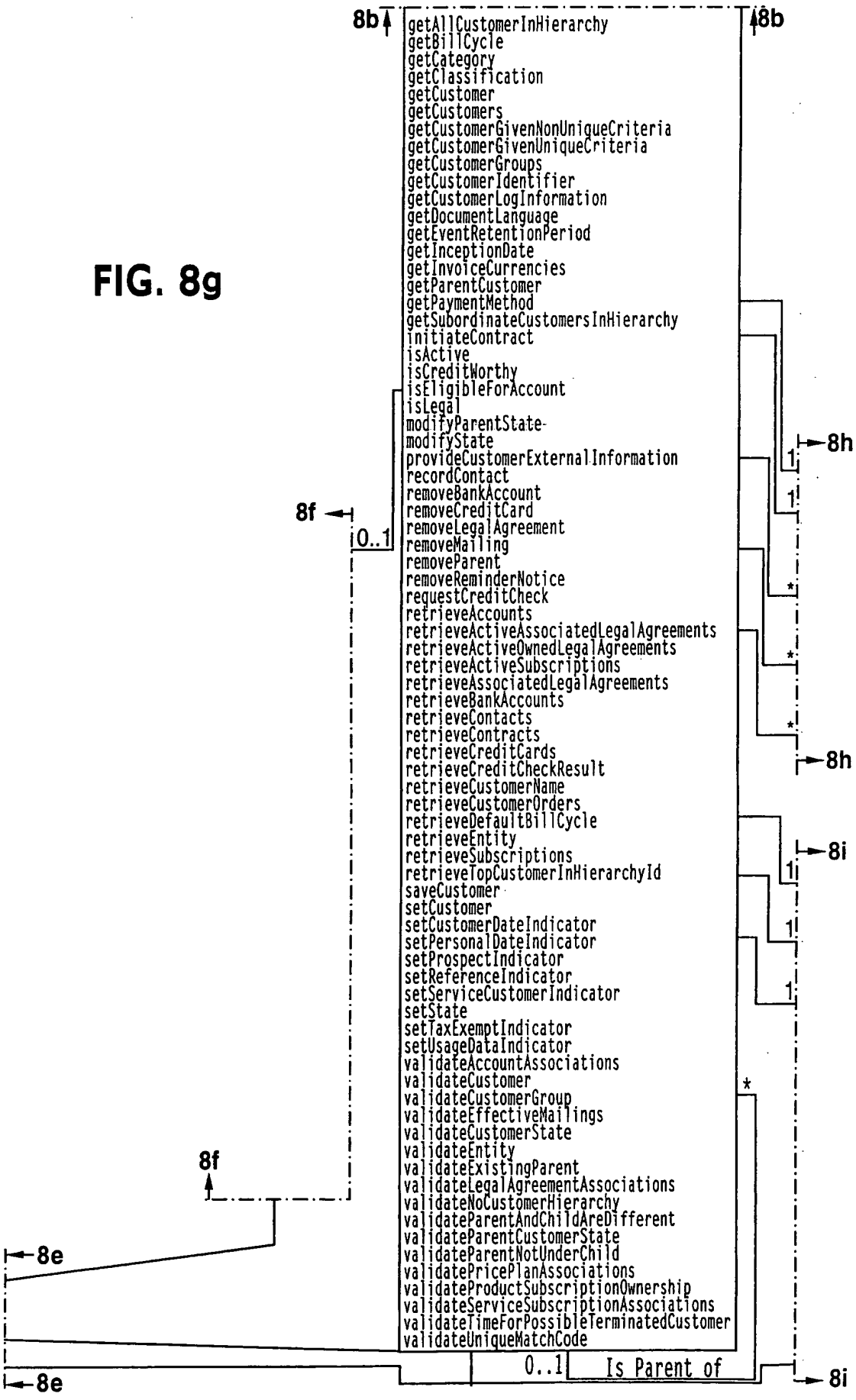


FIG. 8f

REPLACEMENT SHEET

FIG. 8g



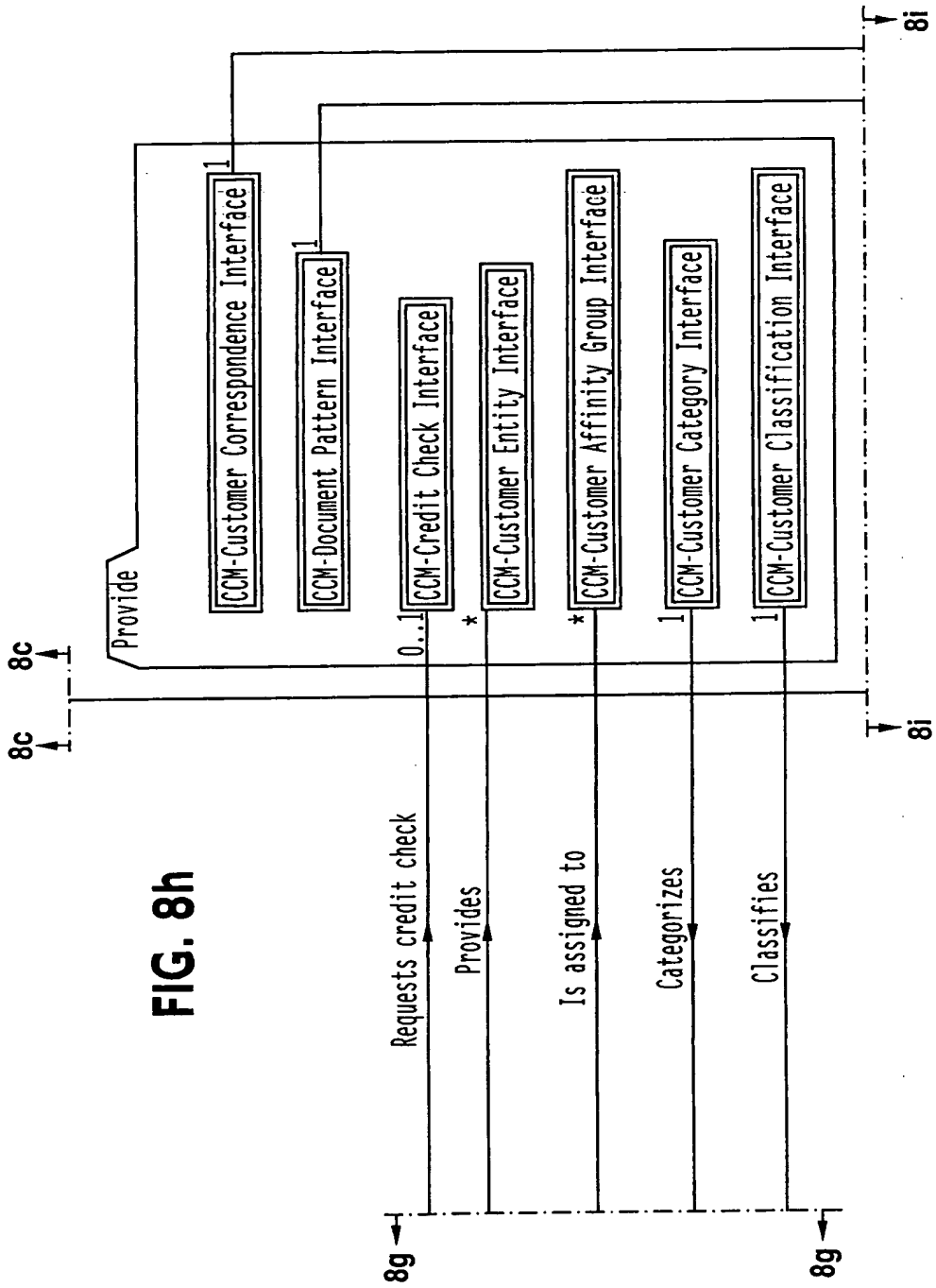

8i
8c
8c
Provide
CCM-Customer Correspondence Interface
CCM-Document Pattern Interface
CCM-Credit Check Interface
CCM-Customer Entity Interface
CCM-Customer Affinity Group Interface
CCM-Customer Category Interface
CCM-Customer Classification Interface
1
1
0..1
*
*
1
1
8i
Requests credit check
Provides
Is assigned to
Categorizes
Classifies
8g
8g

FIG. 8h

REPLACEMENT SHEET

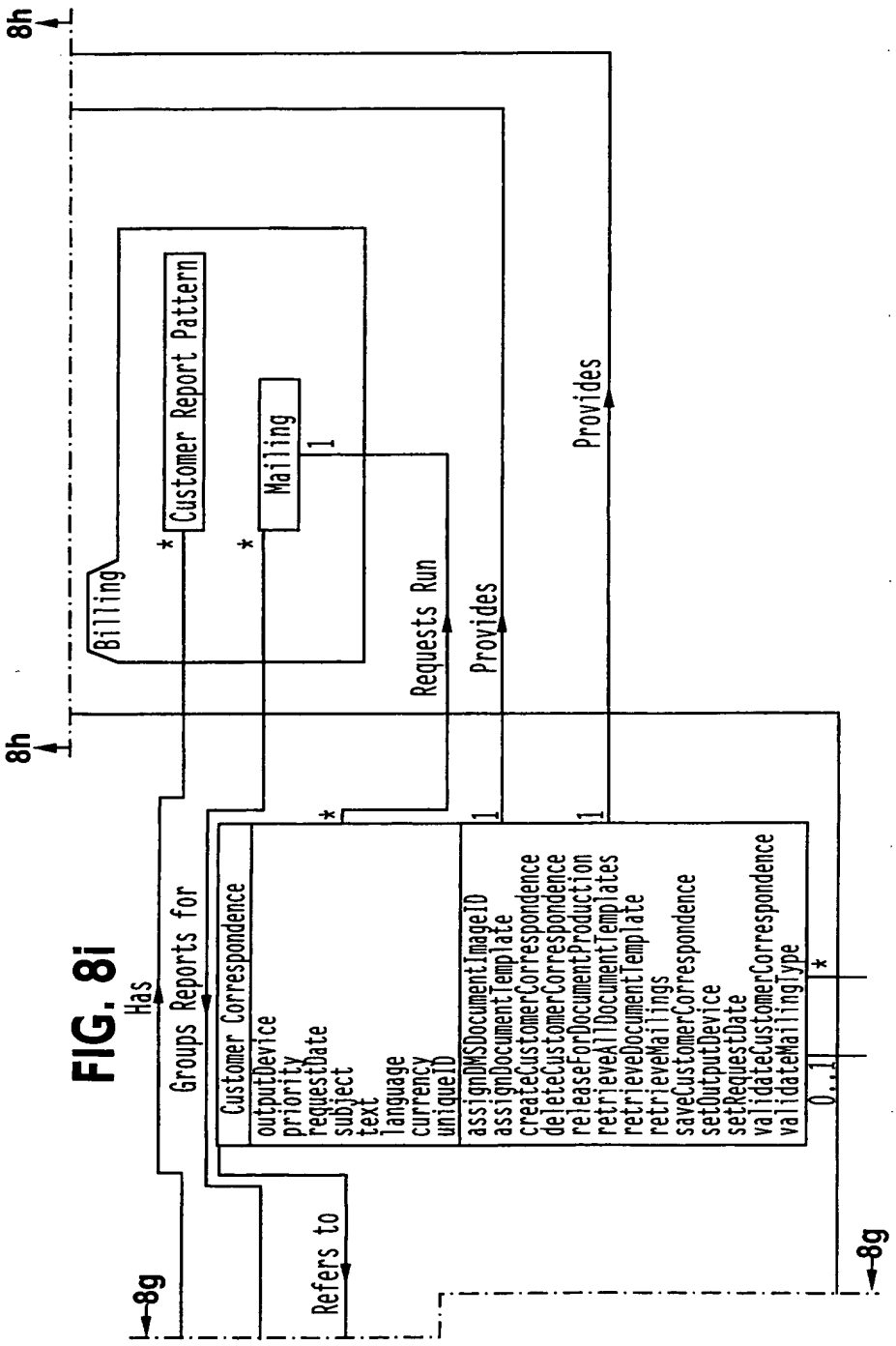
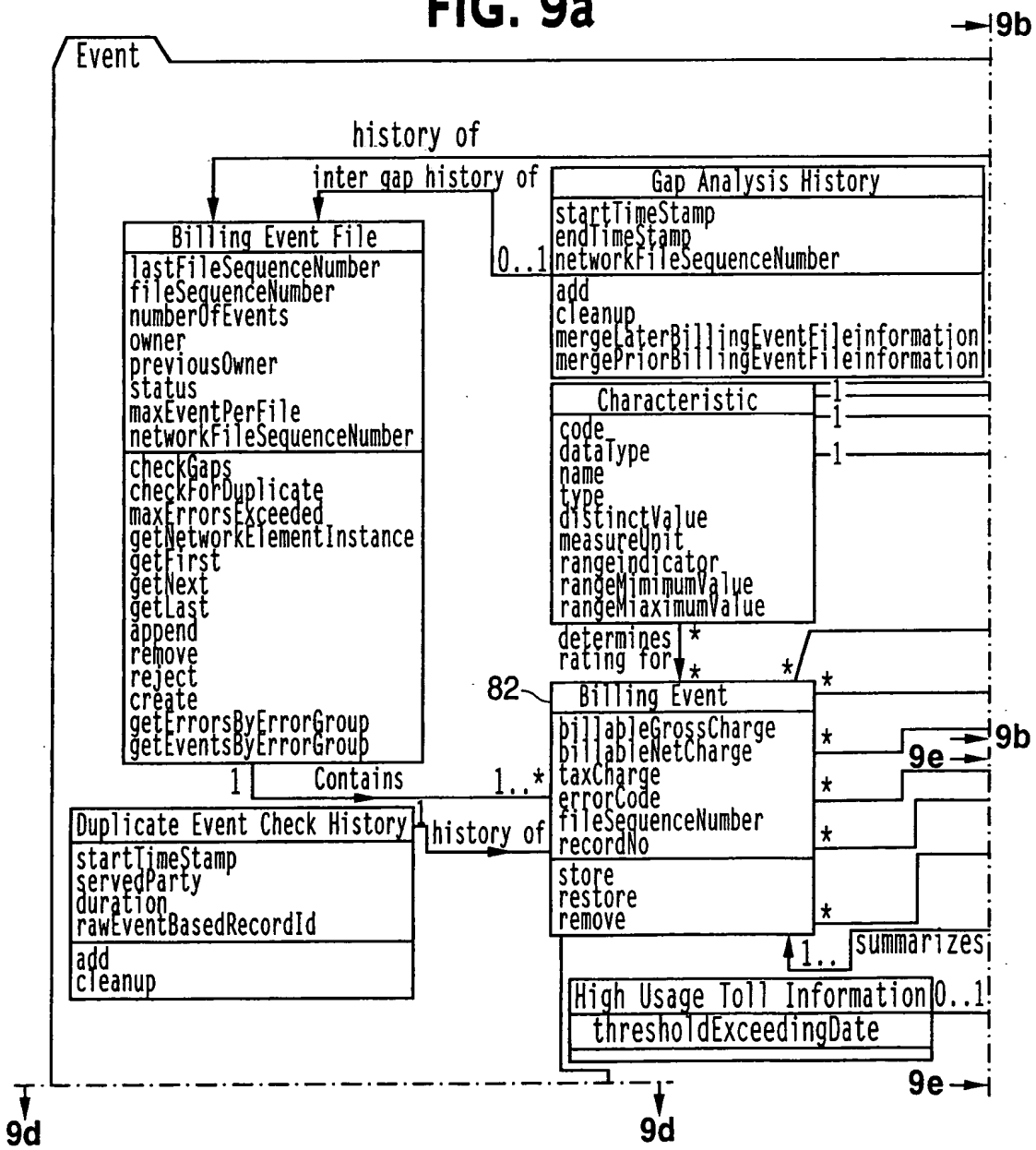


FIG. 8i

FIG. 9a


Event
9b
history of
inter gap history of
Gap Analysis History
startTimeStamp
endTimeStamp
networkFileSequenceNumber
add
cleanup
mergeLaterBillingEventFileinformation
mergePriorBillingEventFileinformation
0..1
Billing Event File
lastFileSequenceNumber
fileSequenceNumber
numberOfEvents
owner
previousOwner
status
maxEventPerFile
networkFileSequenceNumber
checkGaps
checkForDuplicate
maxErrorsExceeded
getNetworkElementInstance
getFirst
getNext
getLast
append
remove
reject
create
getErrorsByErrorGroup
getEventsByErrorGroup
Characteristic
code
dataType
name
type
distinctValue
measureUnit
rangeIndicator
rangeMinimumValue
rangeMaximumValue
1
determines
rating for
82
Billing Event
billableGrossCharge
billableNetCharge
taxCharge
errorCode
fileSequenceNumber
recordNo
store
restore
remove
9e
1
Contains
1..*
Duplicate Event Check History
startTimeStamp
servedParty
duration
rawEventBasedRecordId
add
cleanup
history of
summarizes
High Usage Toll Information
thresholdExceedingDate
0..1
9d
9d

REPLACEMENT SHEET

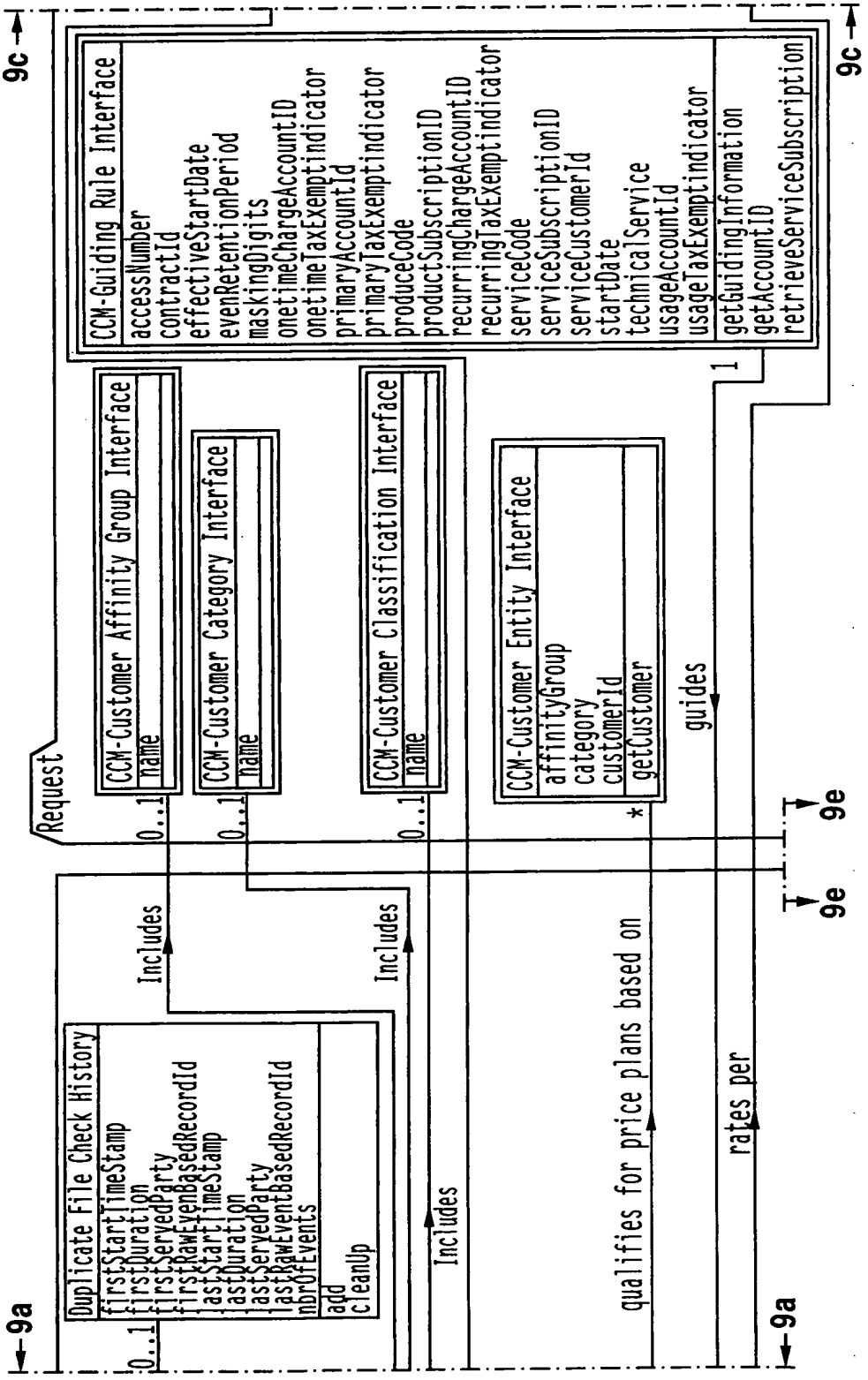
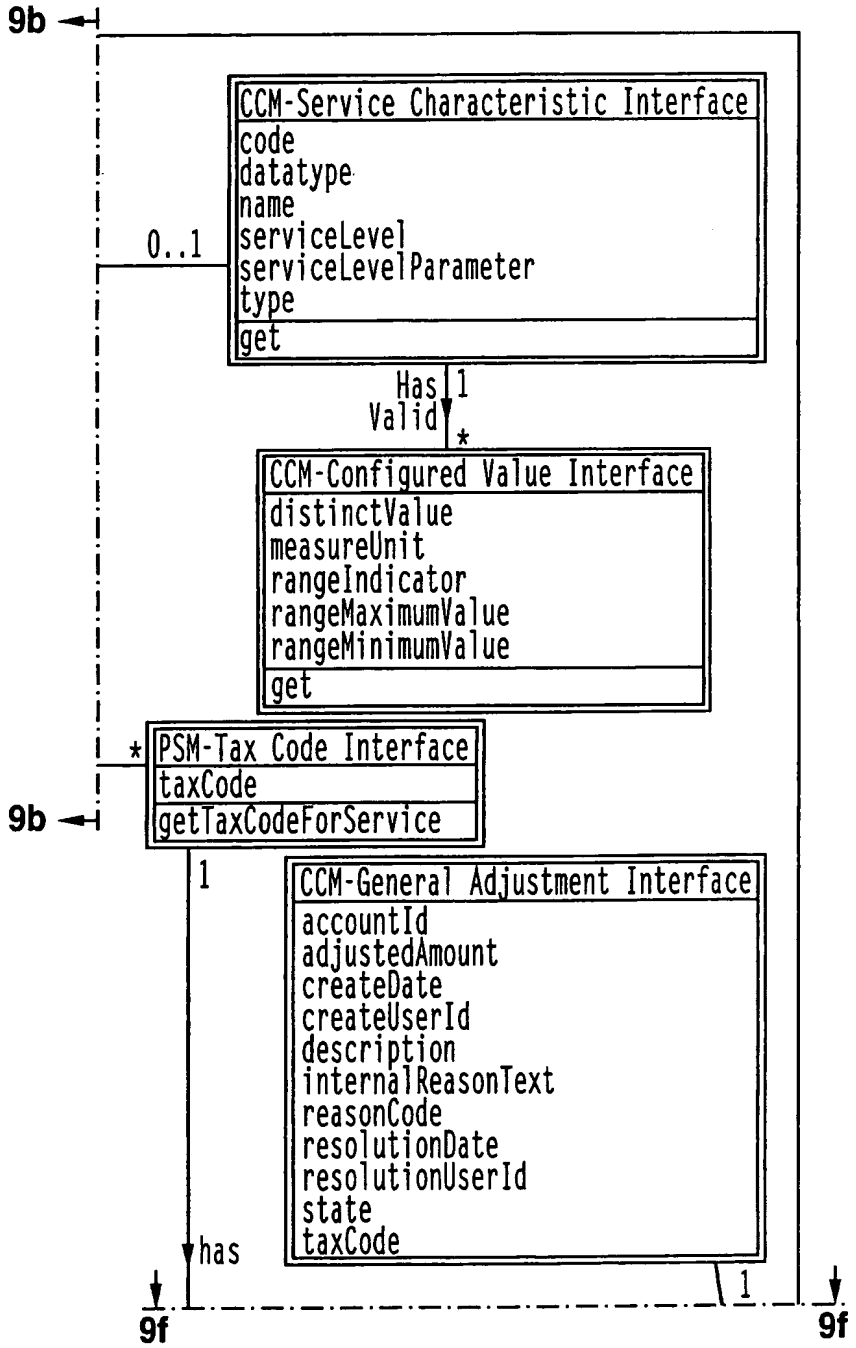


FIG. 9b

REPLACEMENT SHEET

FIG. 9c



REPLACEMENT SHEET

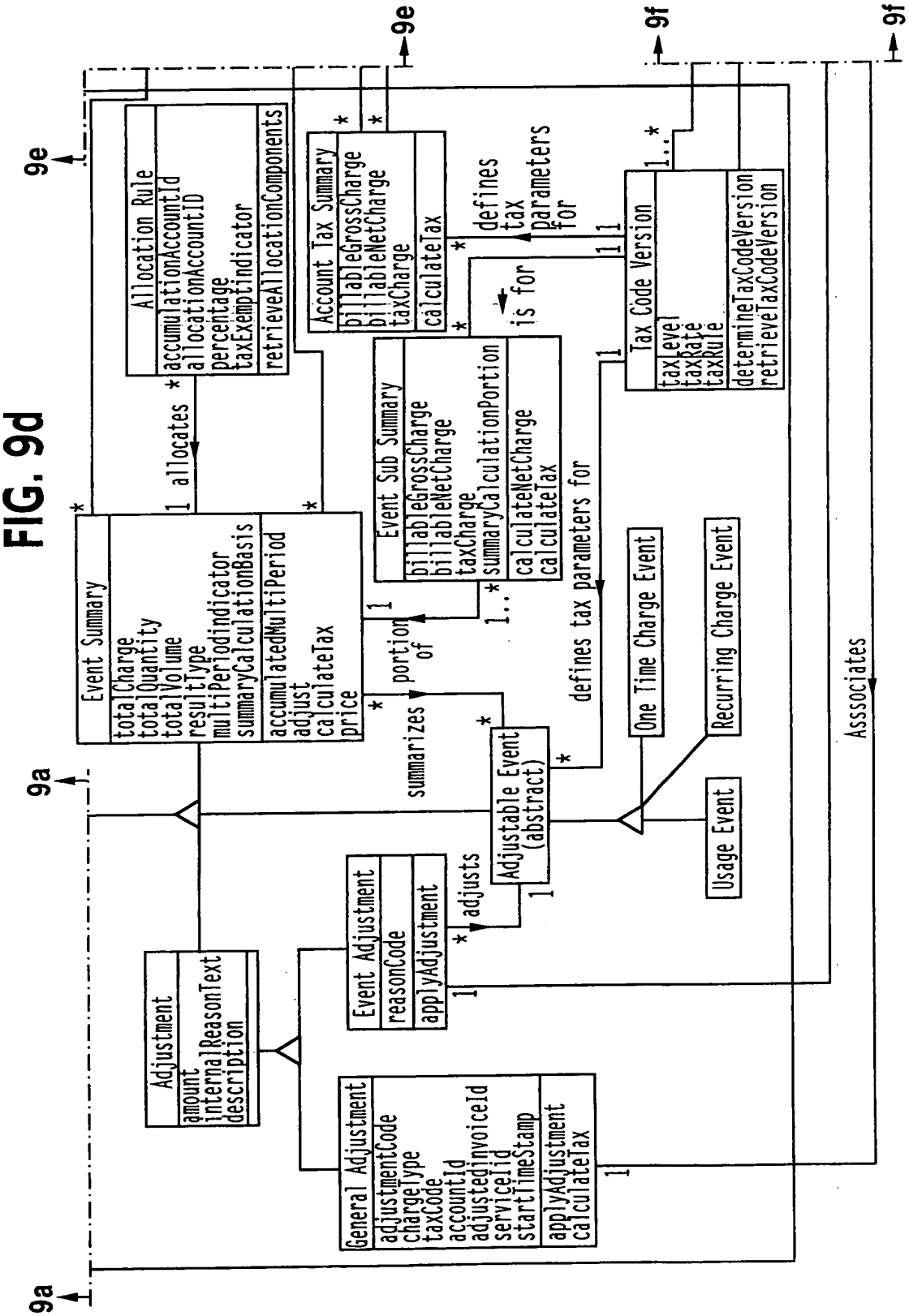
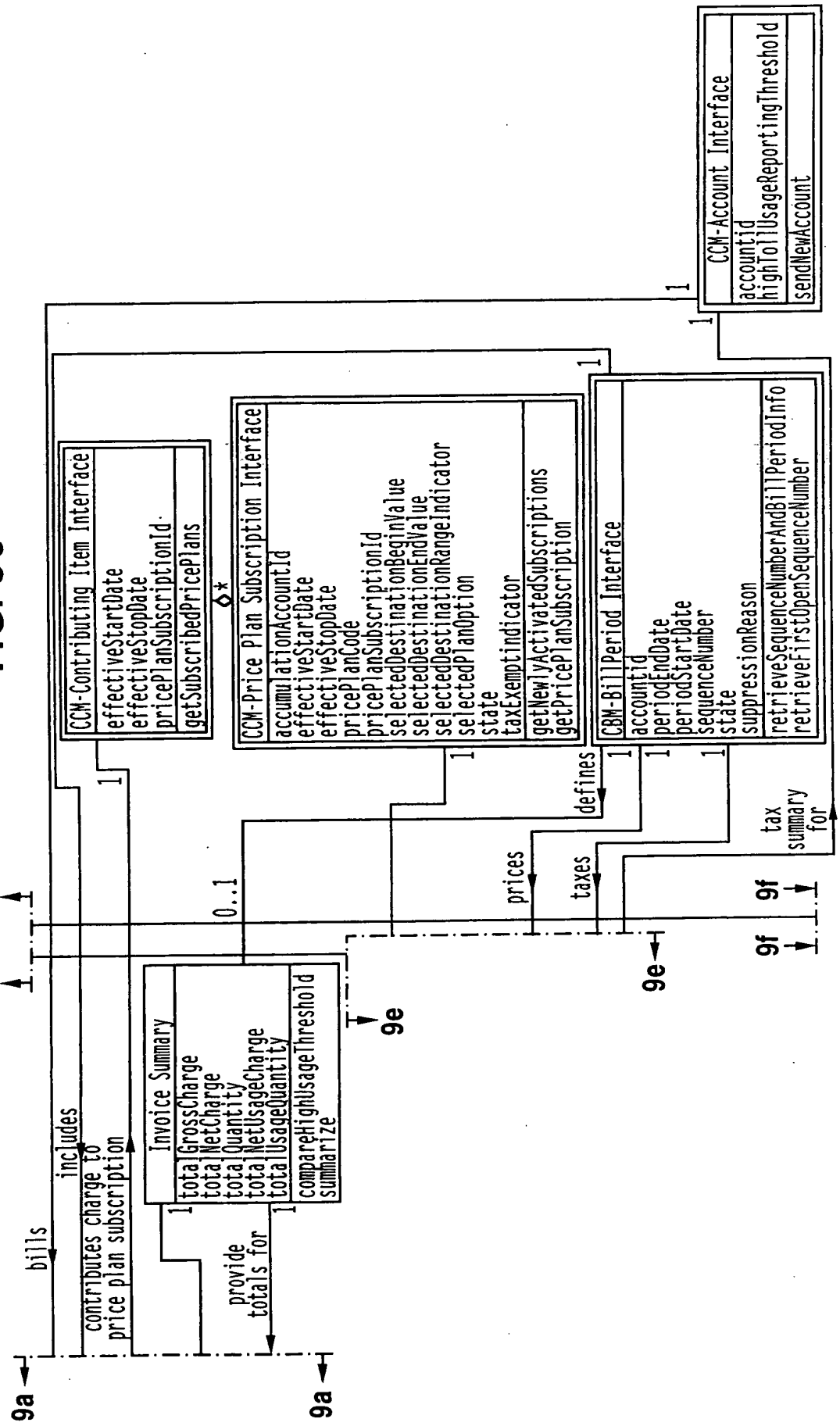


FIG. 9d

REPLACEMENT SHEET

FIG. 9e



REPLACEMENT SHEET

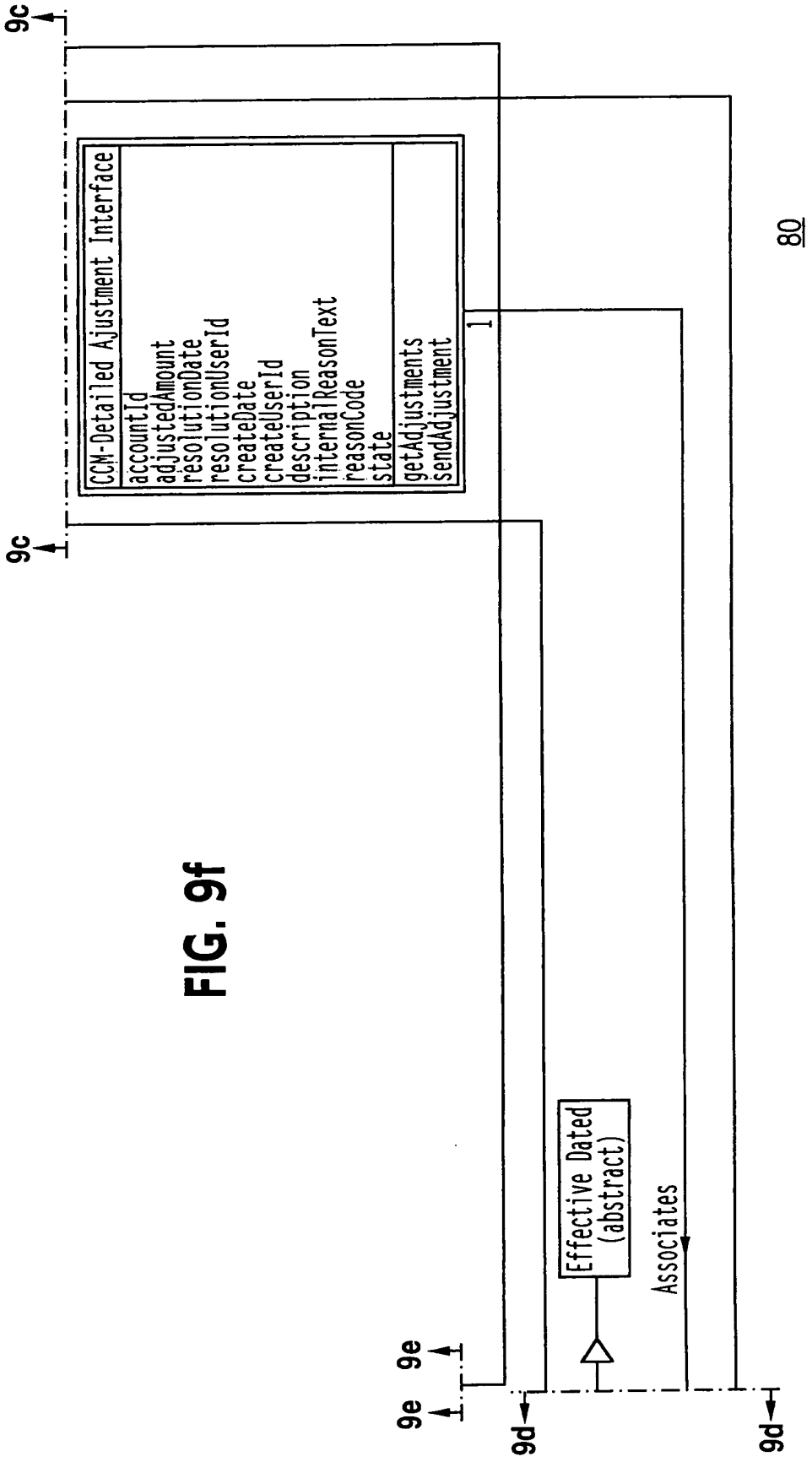
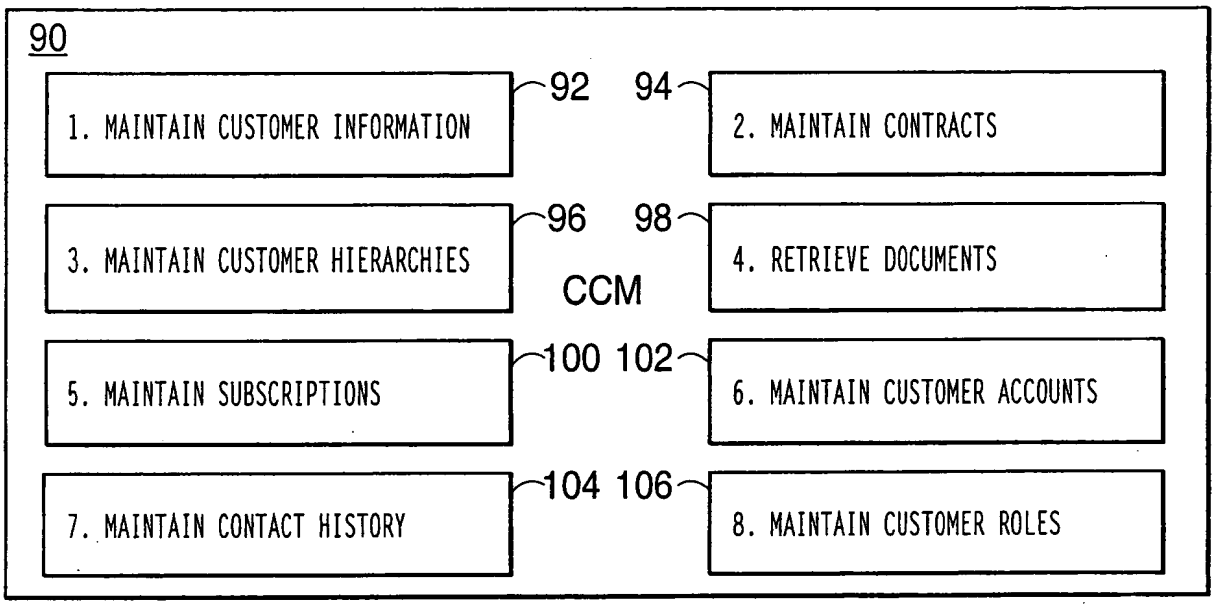


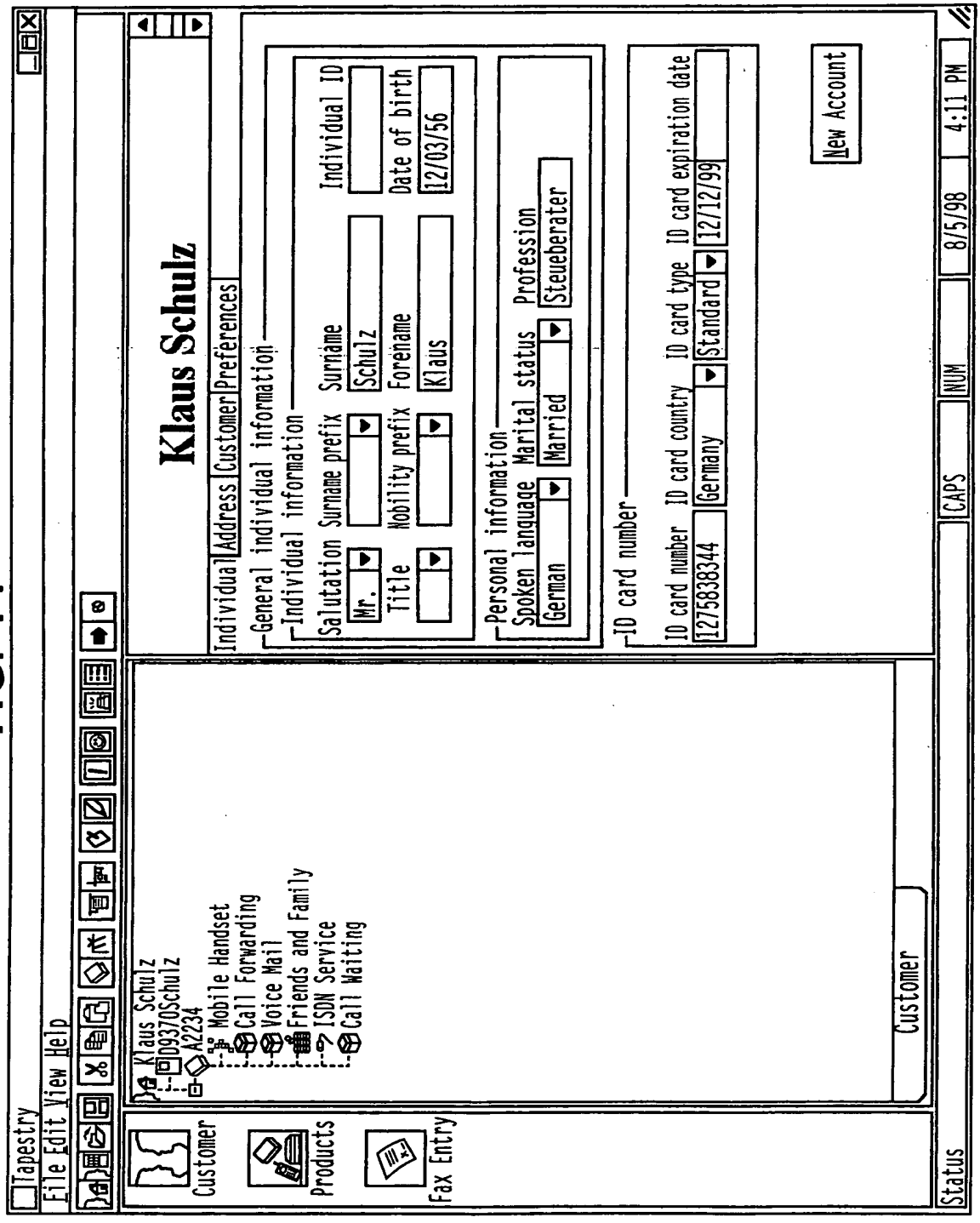
FIG. 9f

FIG. 10


90
1. MAINTAIN CUSTOMER INFORMATION
92
94
2. MAINTAIN CONTRACTS
3. MAINTAIN CUSTOMER HIERARCHIES
96
98
4. RETRIEVE DOCUMENTS
CCM
5. MAINTAIN SUBSCRIPTIONS
100
102
6. MAINTAIN CUSTOMER ACCOUNTS
7. MAINTAIN CONTACT HISTORY
104
106
8. MAINTAIN CUSTOMER ROLES

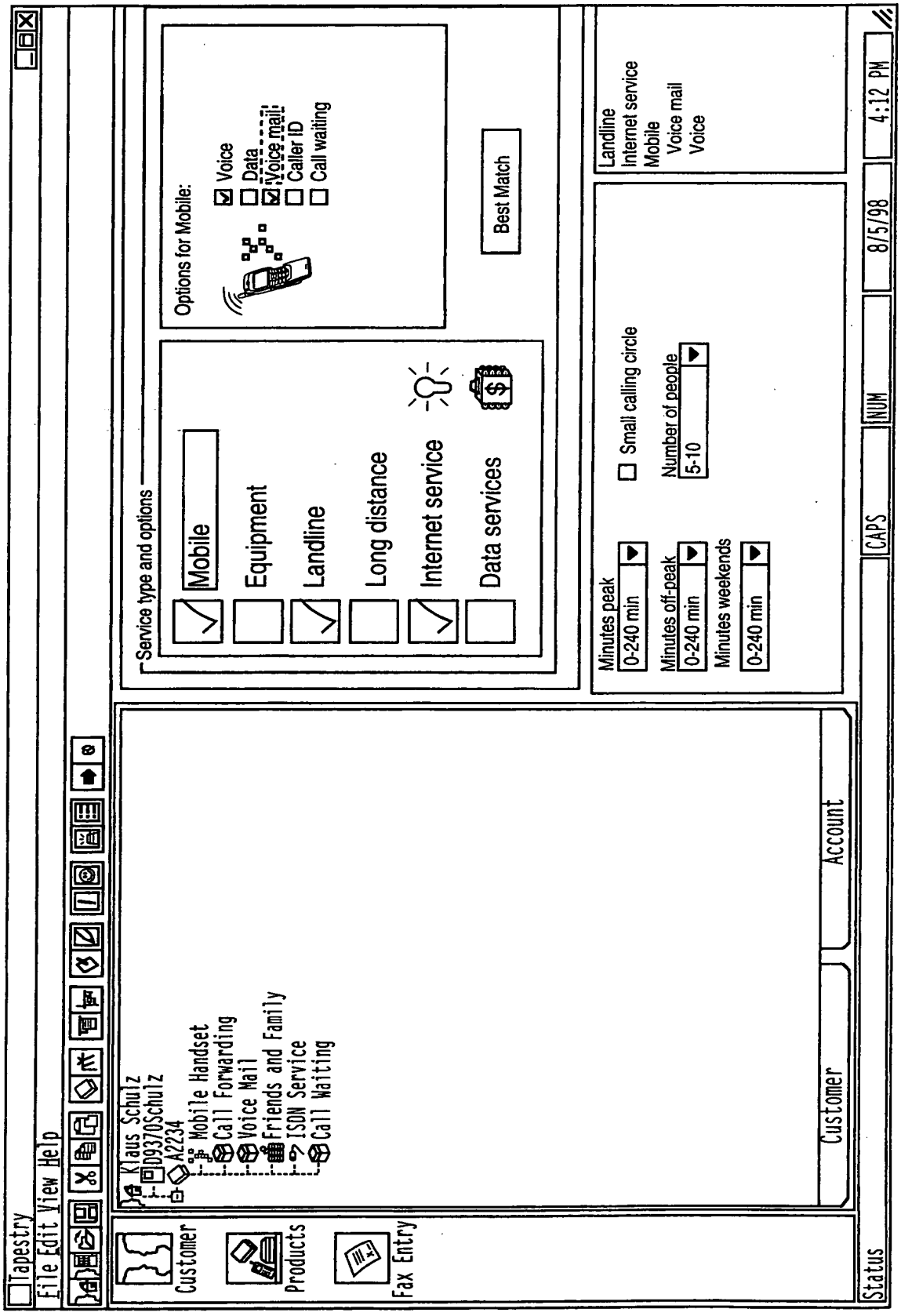
REPLACEMENT SHEET

FIG. 11



REPLACEMENT SHEET

FIG. 12



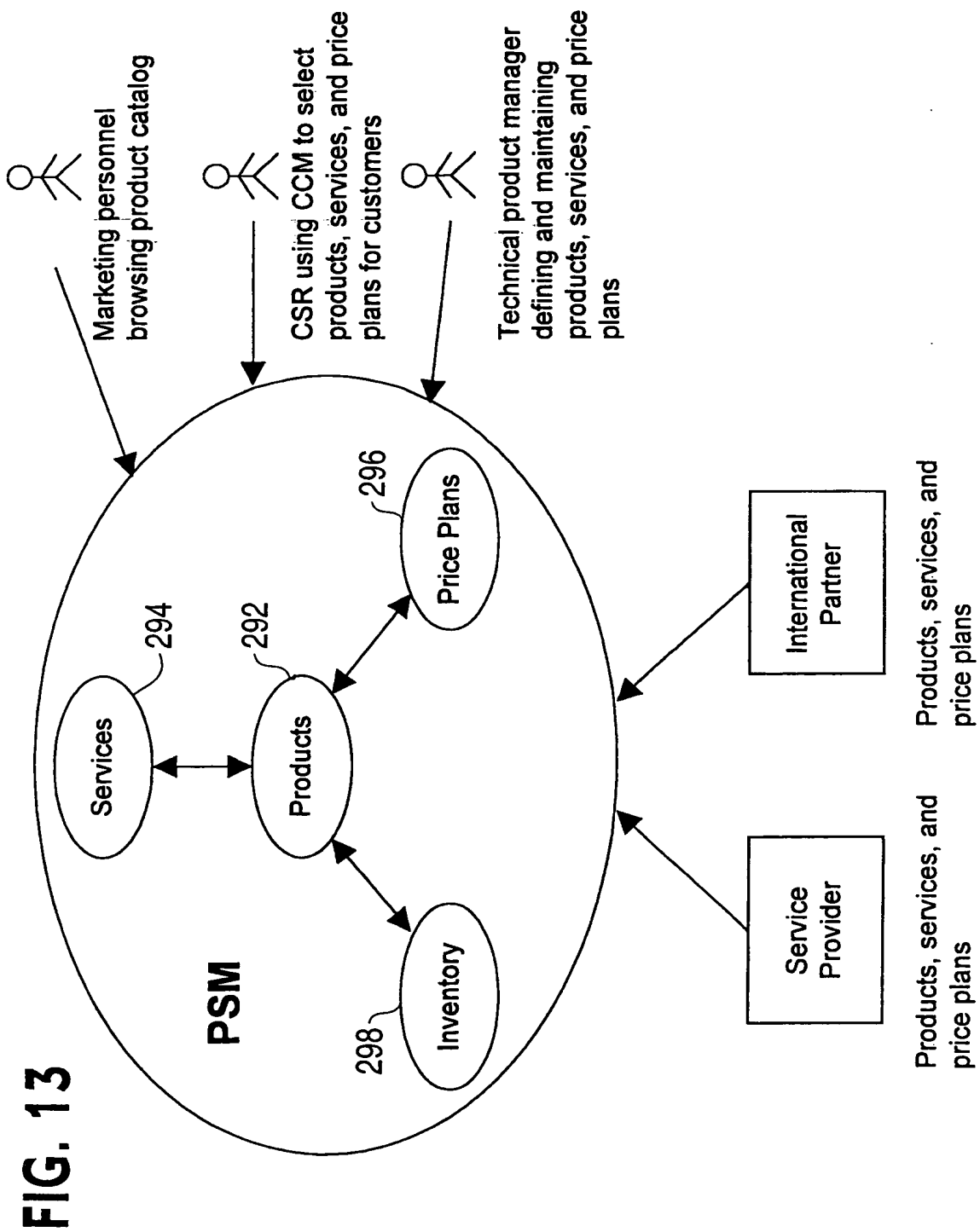
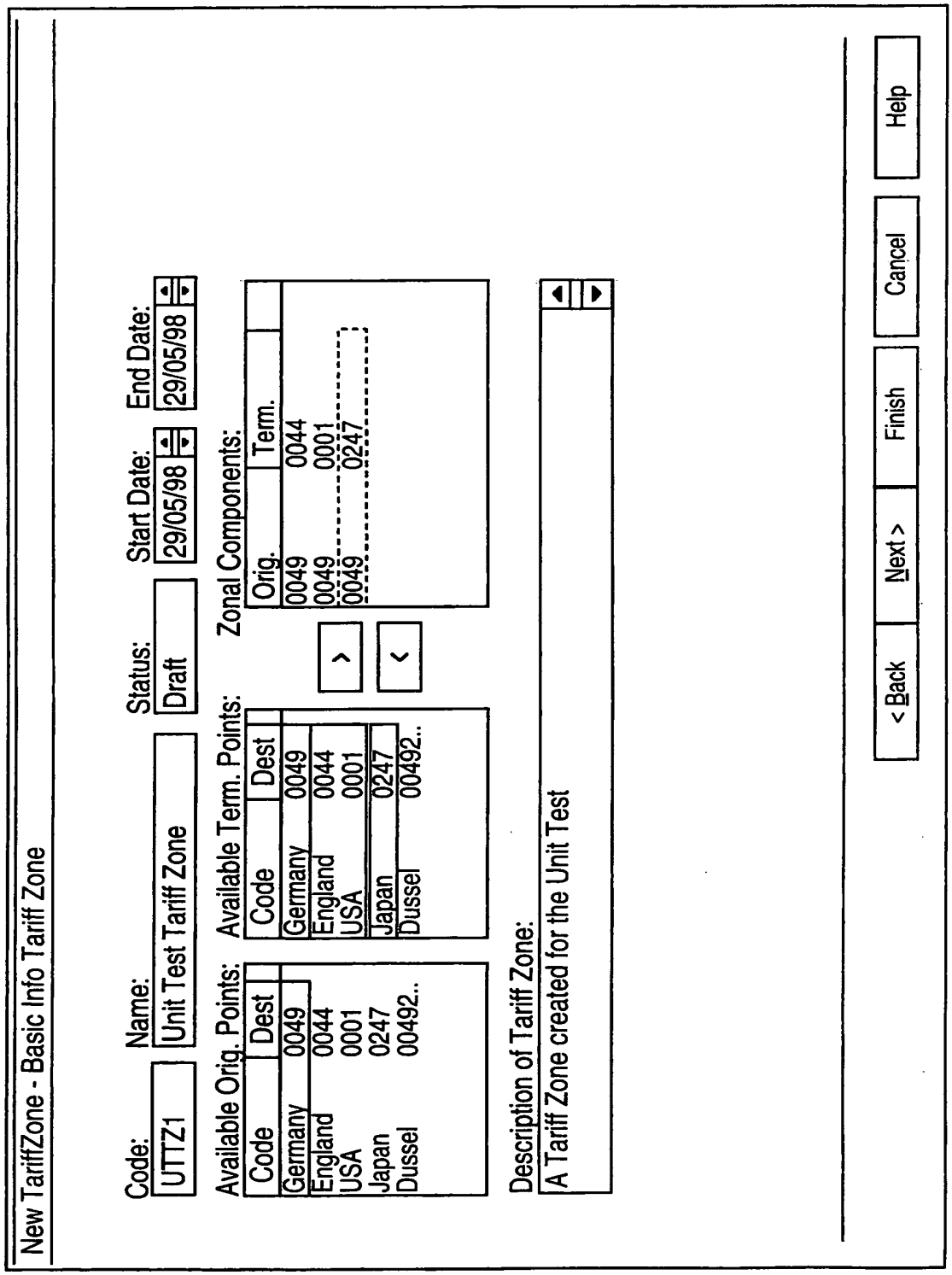

Marketing personnel browsing product catalog
CSR using CCM to select products, services, and price plans for customers
Technical product manager defining and maintaining products, services, and price plans
PSM
Services
294
Products
292
Price Plans
296
Inventory
298
International Partner
Service Provider
Products, services, and price plans
Products, services, and price plans

FIG. 13

REPLACEMENT SHEET

FIG. 14



REPLACEMENT SHEET

FIG. 15

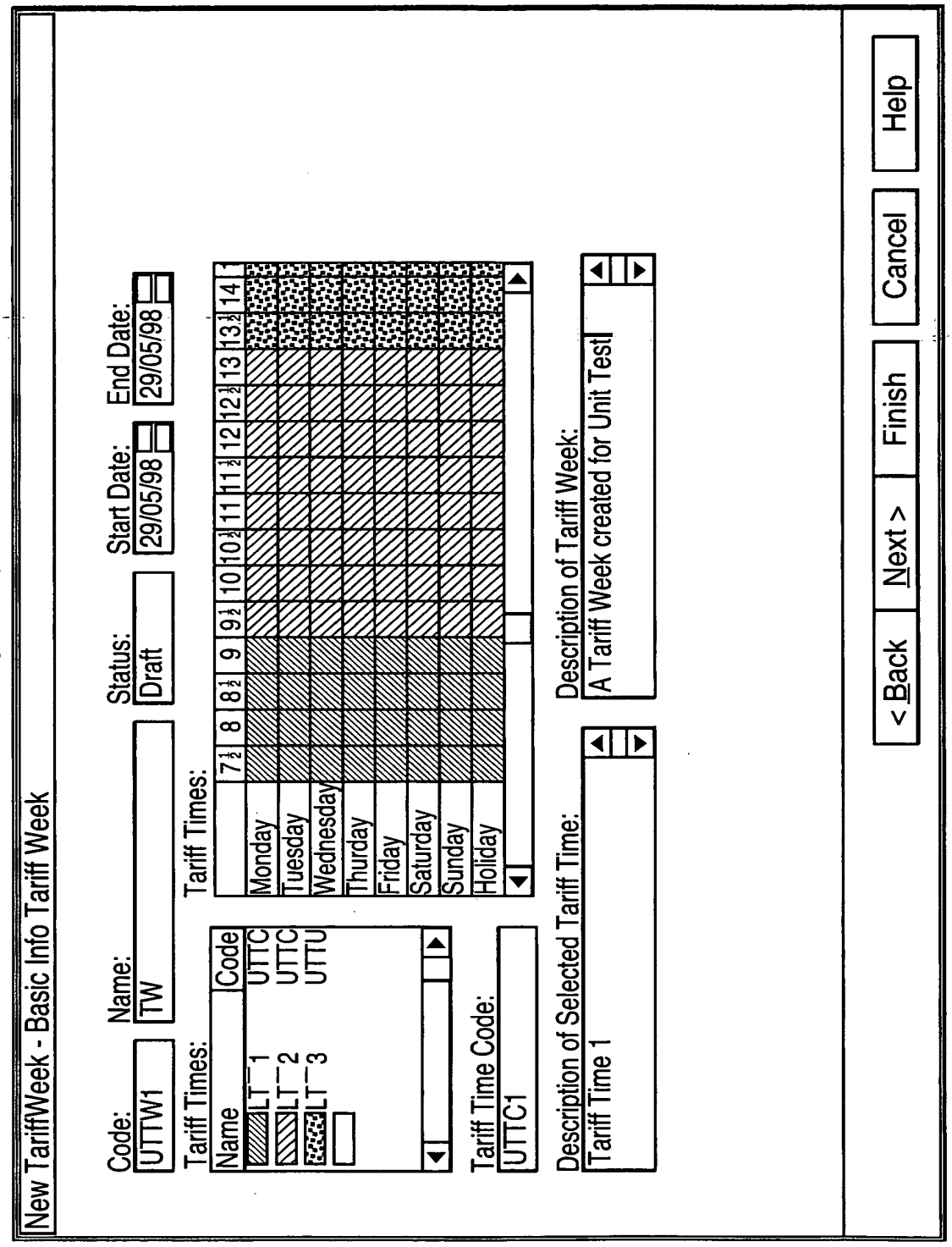
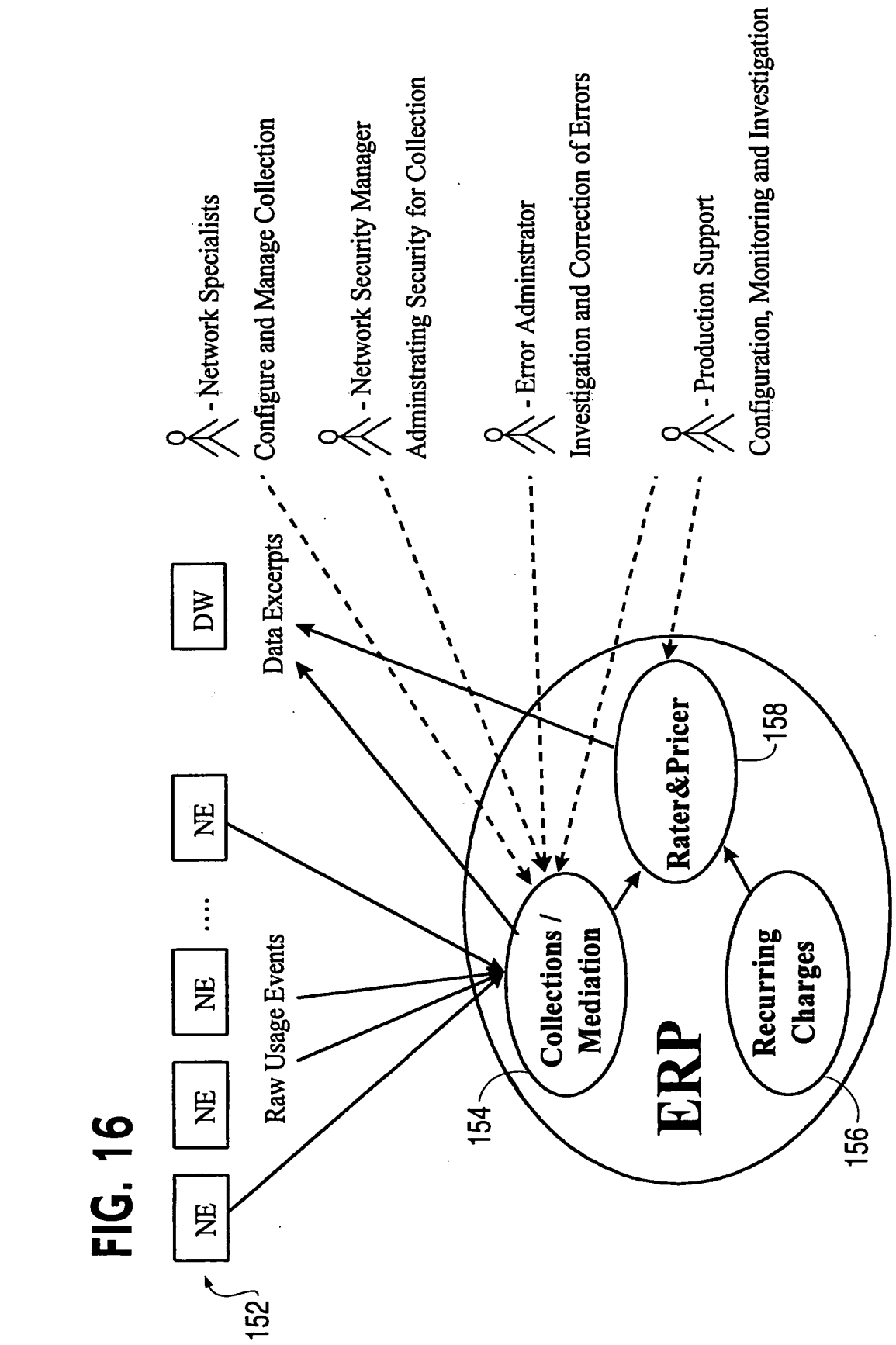


FIG. 16


NE
NE
NE
....
NE
DW
152
Raw Usage Events
Data Excerpts
- Network Specialists
Configure and Manage Collection
- Network Security Manager
Adminstrating Security for Collection
- Error Adminstrator
Investigation and Correction of Errors
- Production Support
Configuration, Monitoring and Investigation
ERP
Collections / Mediation
Rater&Pricer
Recurring Charges
154
158
156

REPLACEMENT SHEET

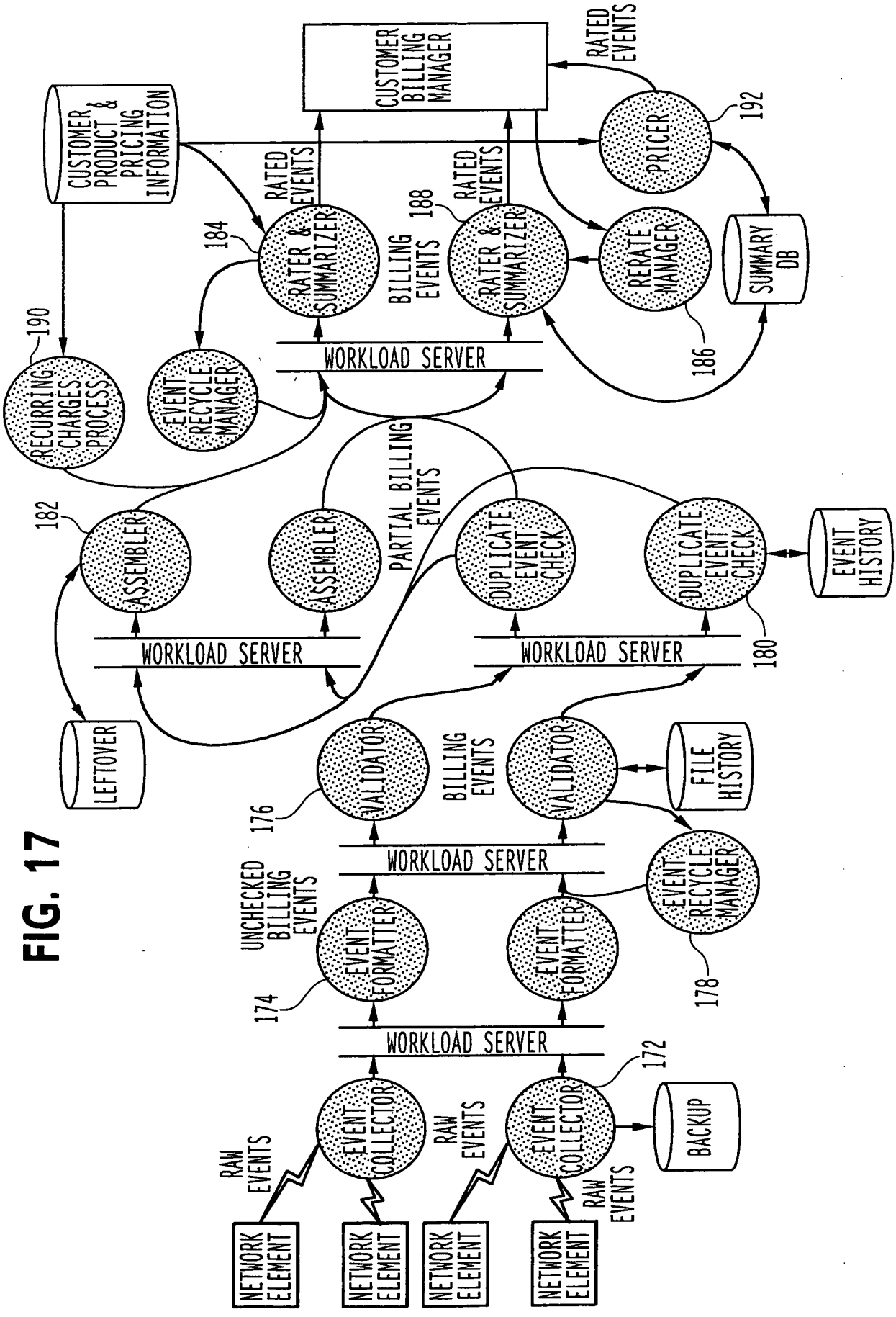
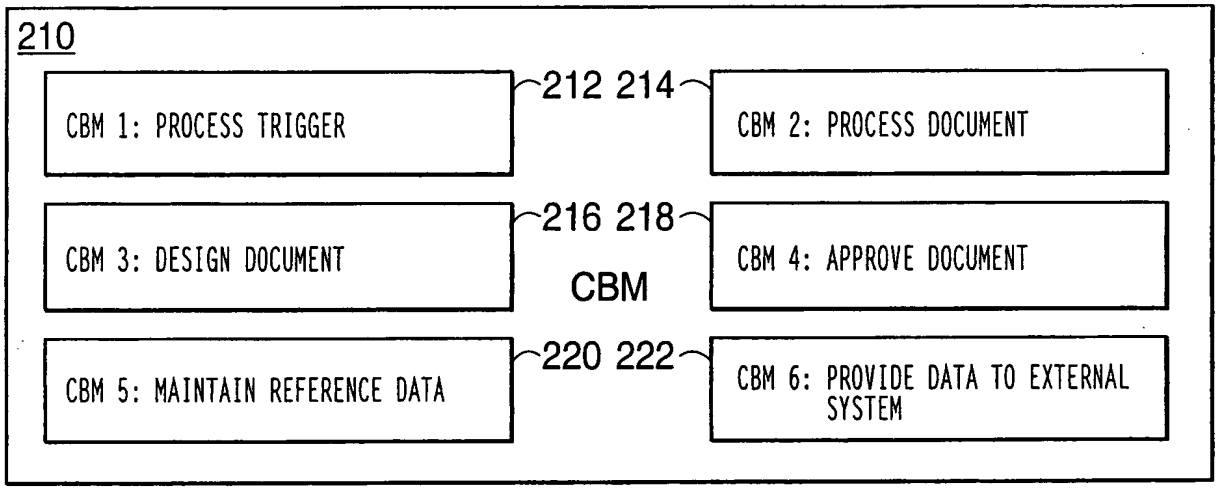


FIG. 17

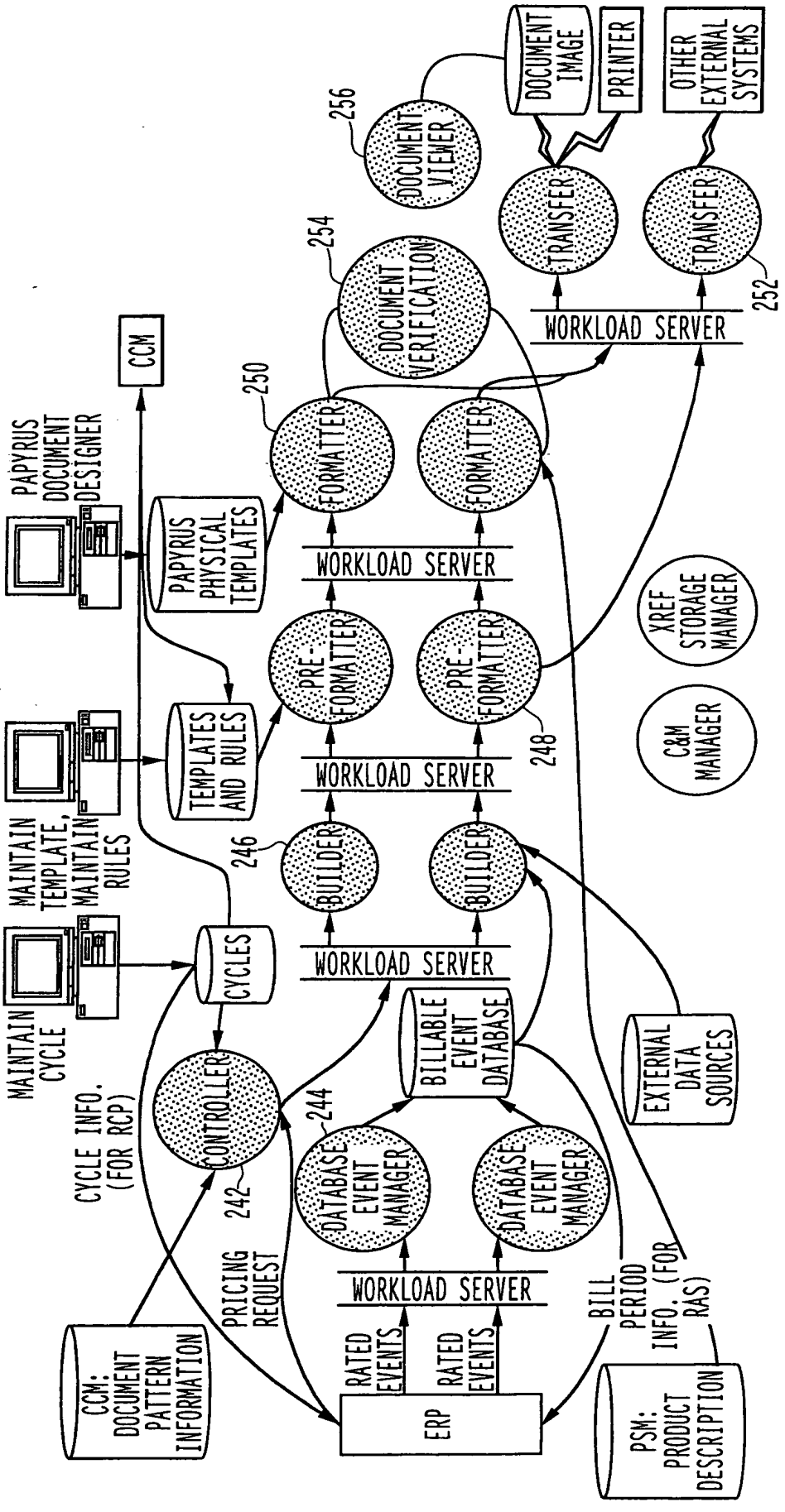
REPLACEMENT SHEET

FIG. 18



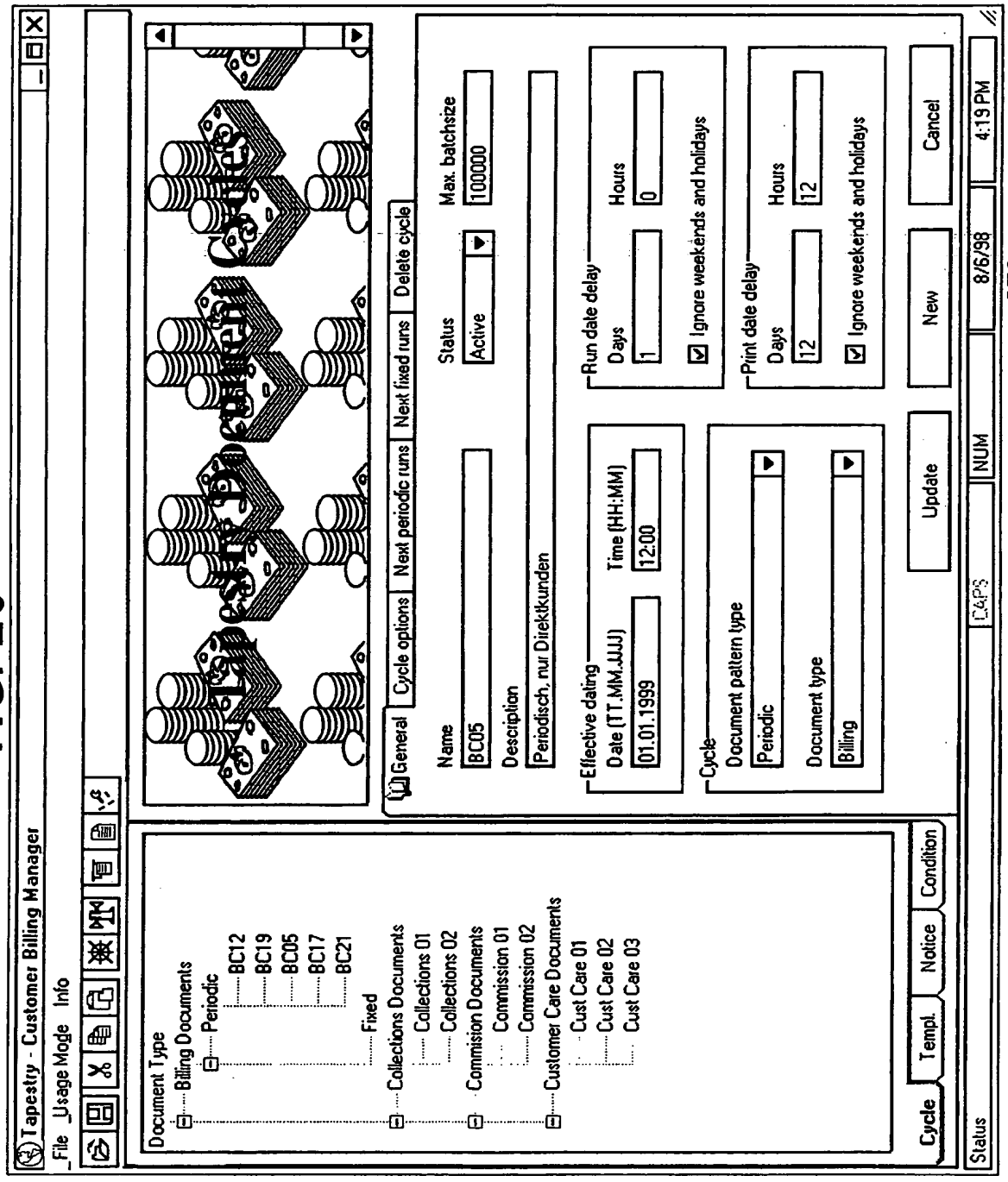
REPLACEMENT SHEET

FIG. 19



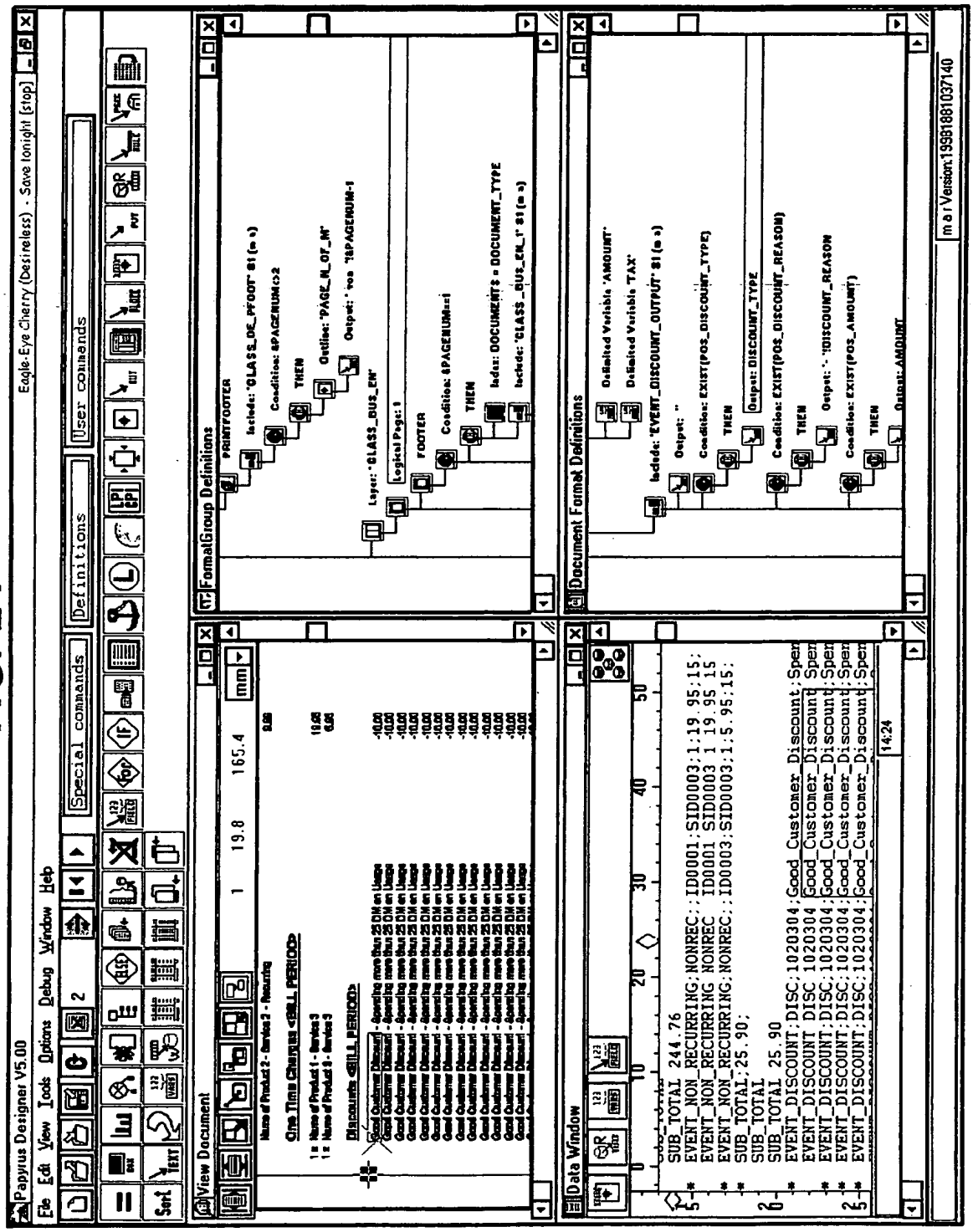
REPLACEMENT SHEET

FIG. 20



REPLACEMENT SHEET

FIG. 21



280

FIG. 22

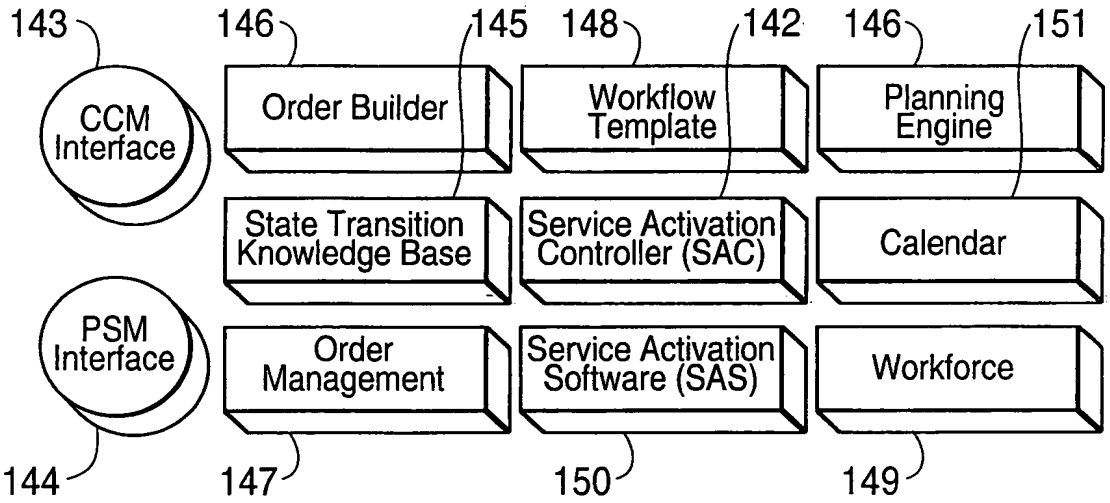
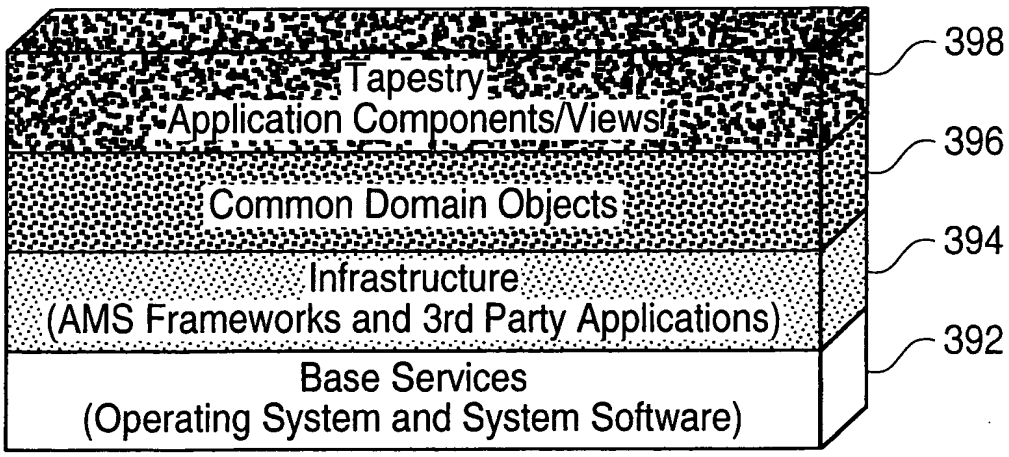

143
146
145
148
142
146
151
CCM Interface
Order Builder
Workflow Template
Planning Engine
State Transition Knowledge Base
Service Activation Controller (SAC)
Calendar
PSM Interface
Order Management
Service Activation Software (SAS)
Workforce
144
147
150
149

FIG. 23


Tapestry
Application Components/Views
Common Domain Objects
Infrastructure
(AMS Frameworks and 3rd Party Applications)
Base Services
(Operating System and System Software)
398
396
394
392

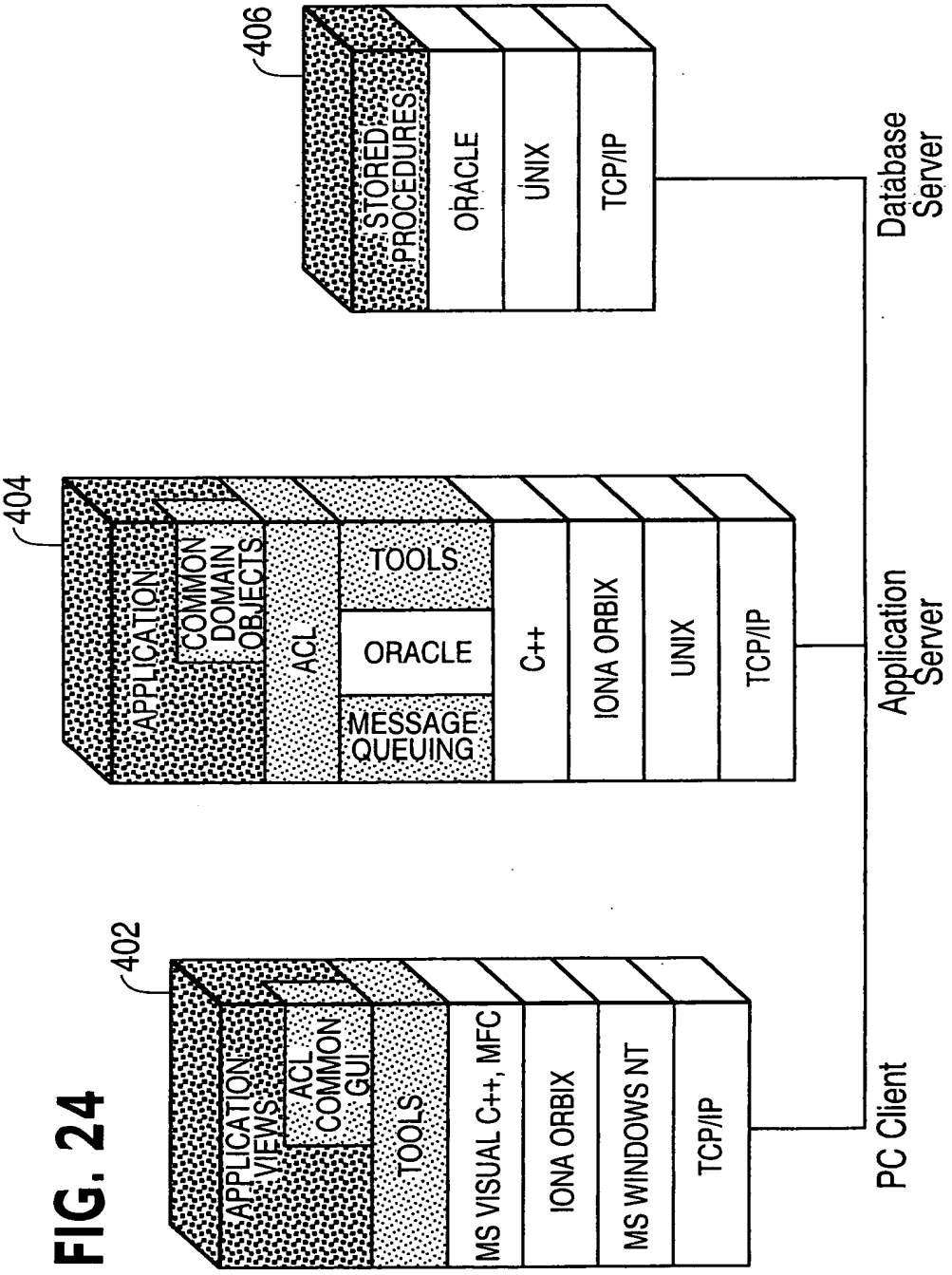

406
STORED PROCEDURES
ORACLE
UNIX
TCP/IP
Database Server
404
APPLICATION
COMMON DOMAIN OBJECTS
ACL
TOOLS
ORACLE
MESSAGE QUEUING
C++
IONA ORBIX
UNIX
TCP/IP
Application Server
402
APPLICATION VIEWS
ACL COMMON GUI
TOOLS
MS VISUAL C++, MFC
IONA ORBIX
MS WINDOWS NT
TCP/IP
PC Client

FIG. 24

REPLACEMENT SHEET

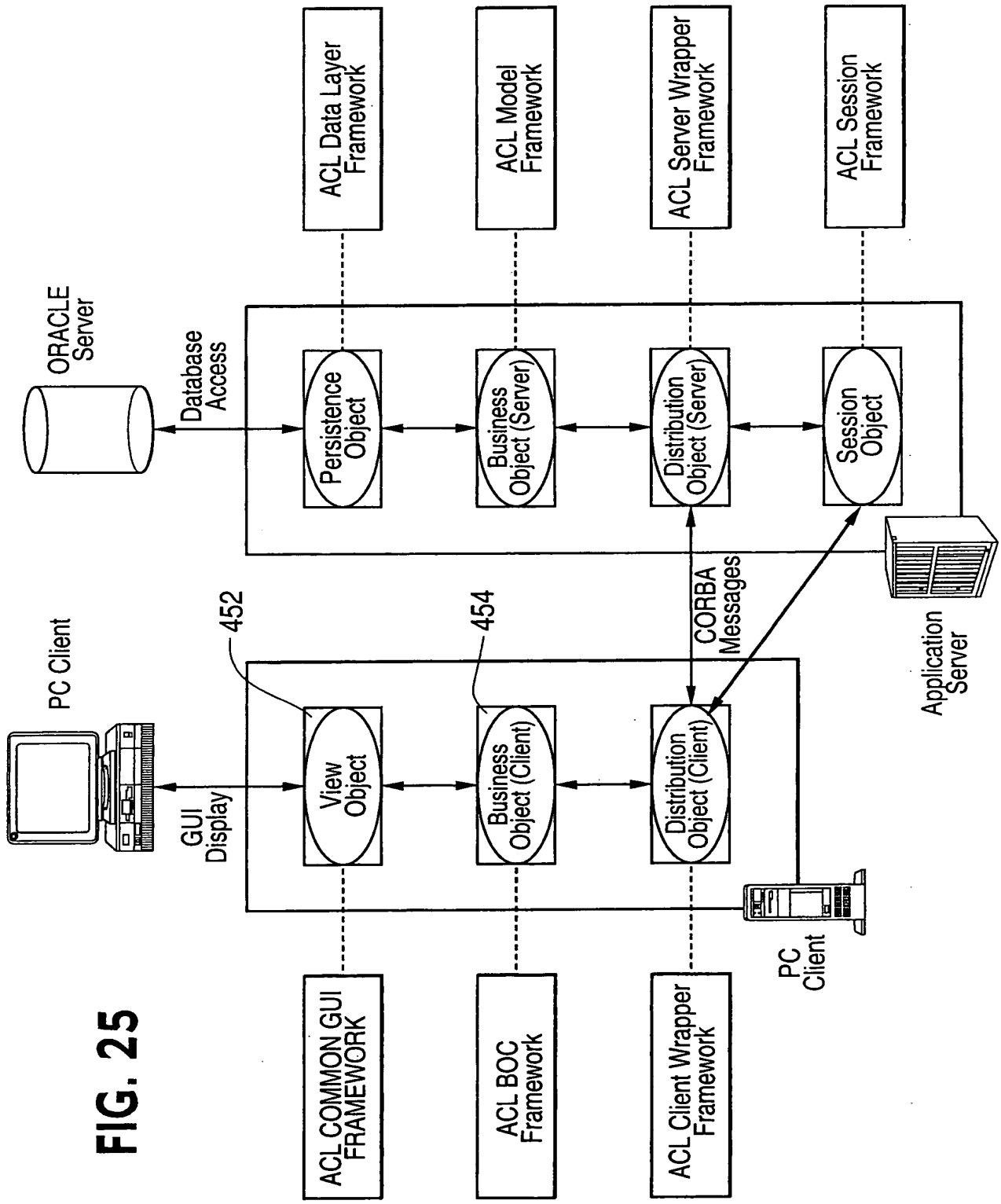


FIG. 25

REPLACEMENT SHEET

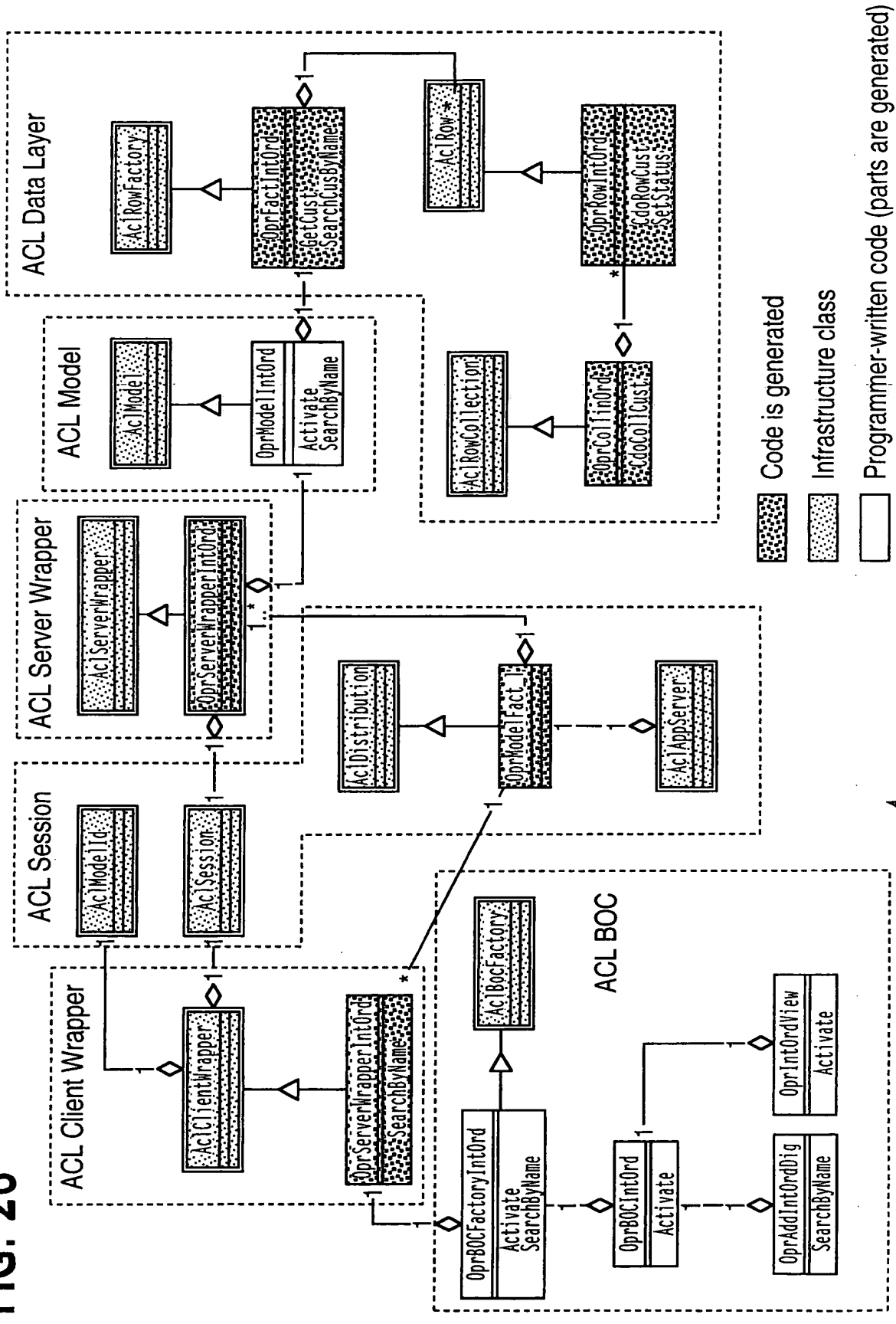


FIG. 26

REPLACEMENT SHEET

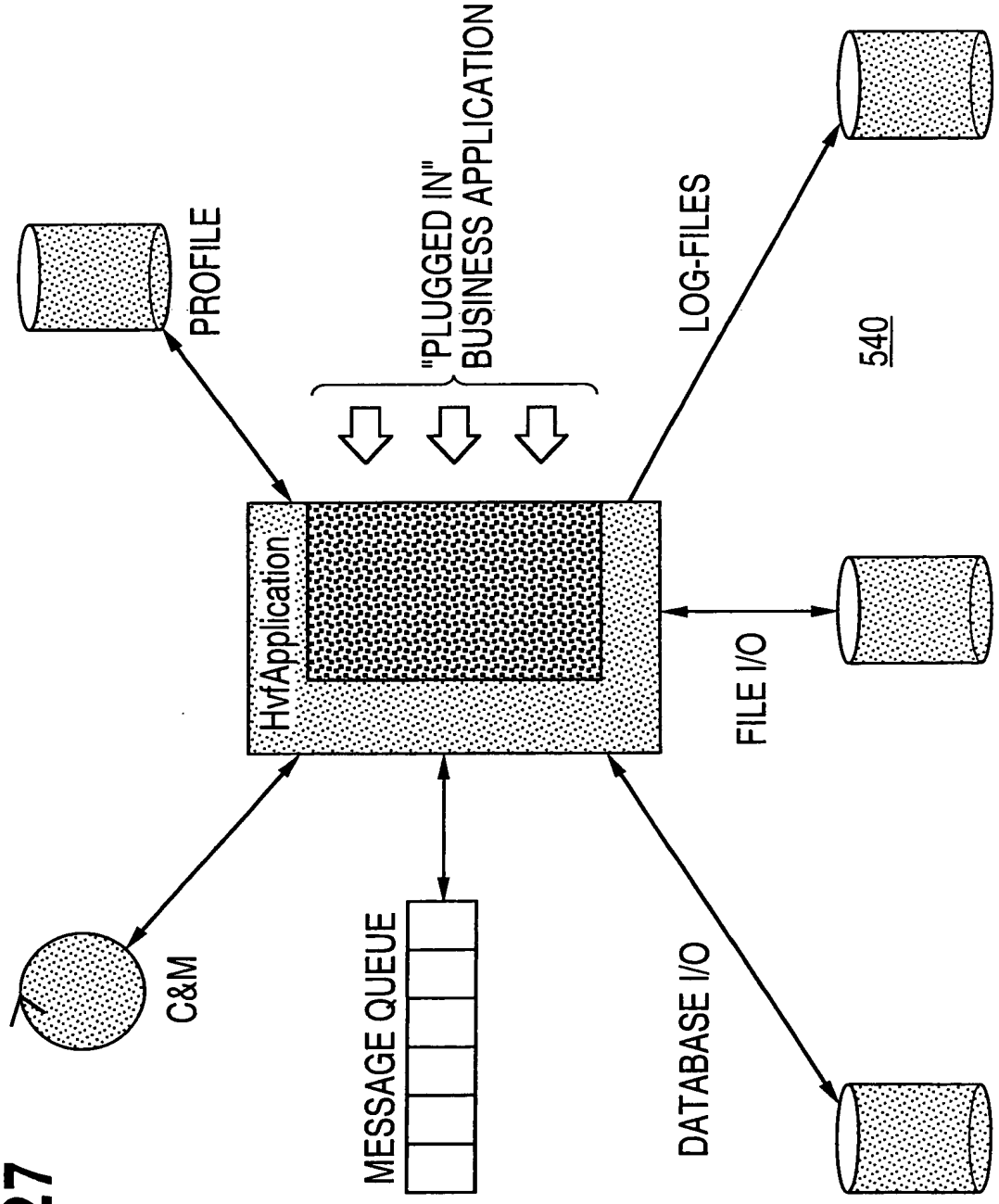


FIG. 27

REPLACEMENT SHEET

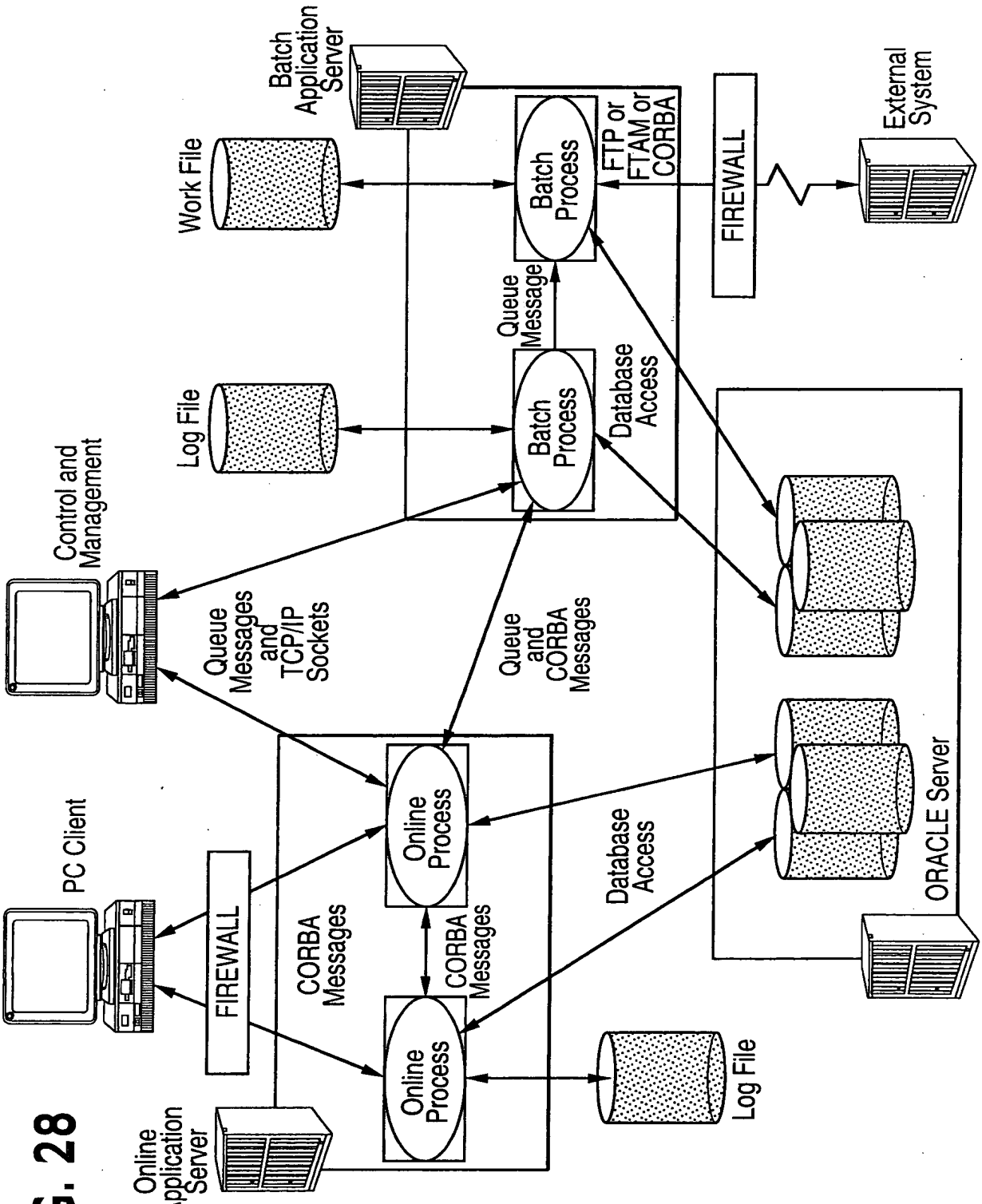


FIG. 28

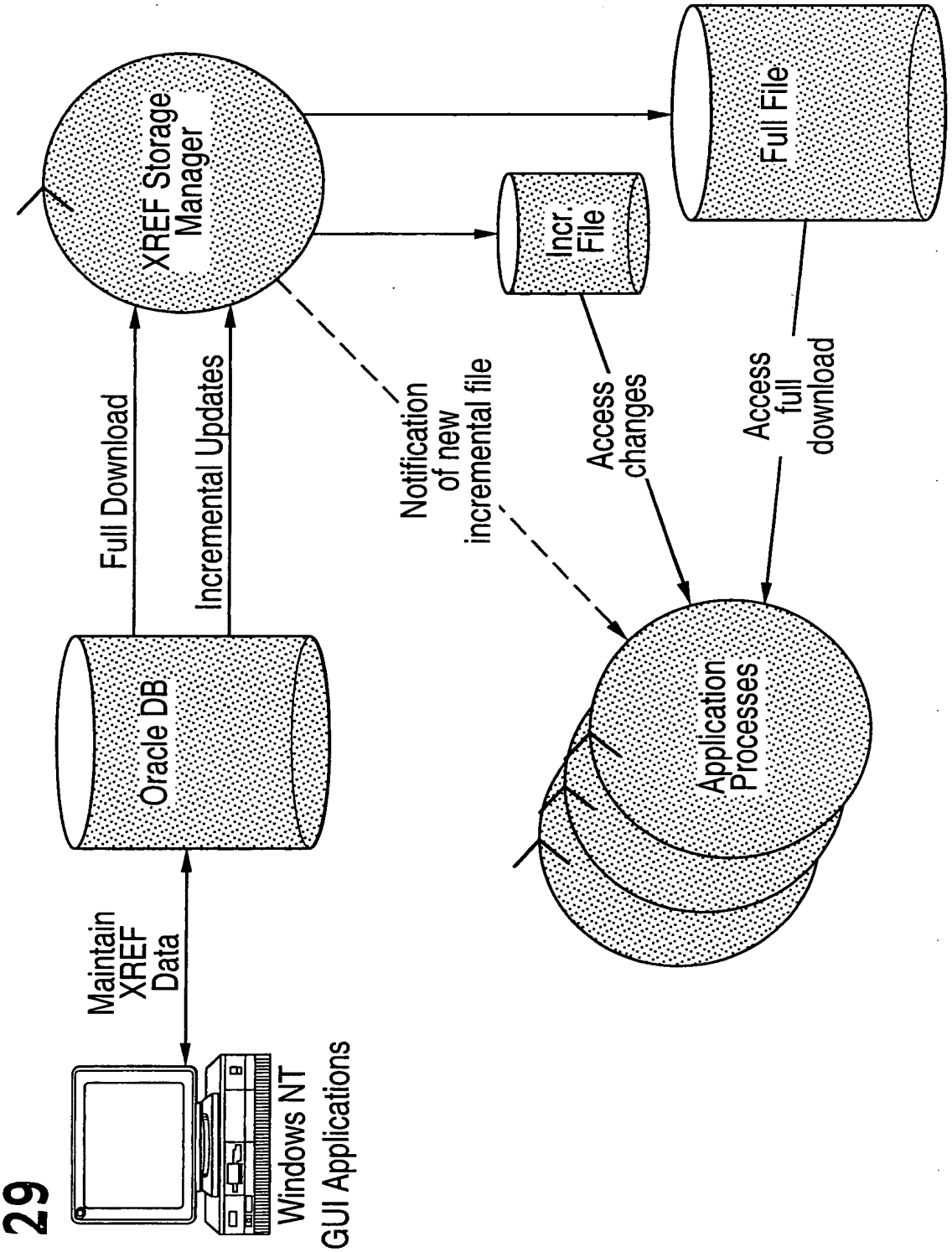

XREF Storage Manager
Full File
Incr. File
Full Download
Incremental Updates
Notification of new incremental file
Access changes
Access full download
Oracle DB
Application Processes
Maintain XREF Data
Windows NT GUI Applications

FIG. 29